The BIRCH BARK ROLL

OF THE
WOODCRAFT LEAGUE
OF AMERICA, INC.

by

ERNEST THOMPSON SETON

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The Birch Bark Roll of Woodcraft

The Twenty-First Edition of the Manual

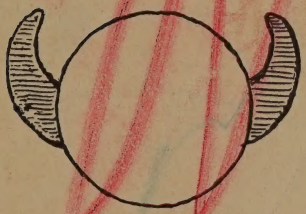
For Boys and Girls from 4 to 94

BY

ERNEST THOMPSON SETON

CHIEF OF THE WOODCRAFT LEAGUE OF AMERICA, INC.

Author of "Wild Animals I Have Known," "Two Little Savages," "Life Histories of Northern Animals," "Game Animals and the Lives They Live," etc.



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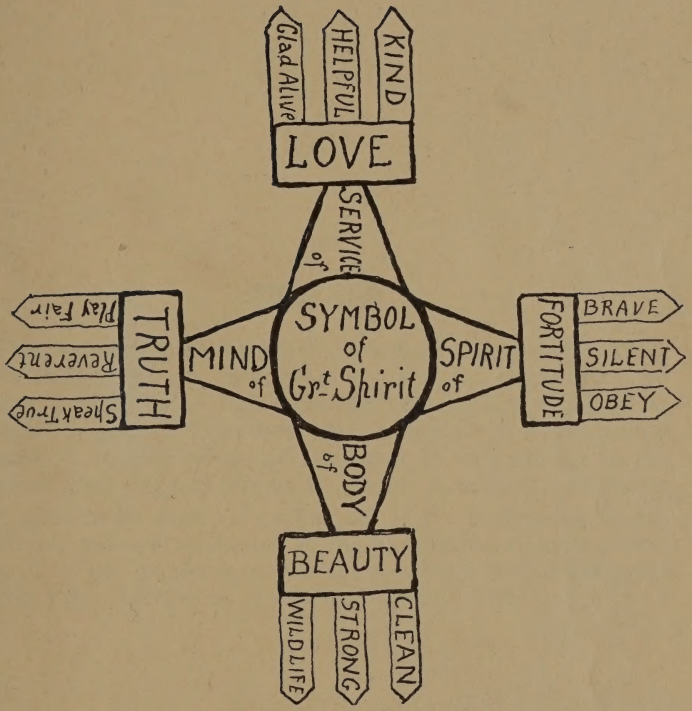
THE BIRCH BARK ROLL OF WOODCRAFT



The Woodcraft Way

PREFACE

The first edition of the Birch Bark Roll was issued in 1902. Since then it has run through many editions, about one each year. It is intended that it should contain the information needed for general Woodcraft work, and when it was found impossible to give adequate treatment to any subject in the brief allotted space, reference was made to reliable text books.

It aims to be a pocket cyclopedia of the interesting things to do, be, see and remember in the big outdoors, with a view always to the grouping under the headings that correspond to the Four Lamps of the Great Central Fire.

HISTORY OF THE WOODCRAFT MOVEMENT

The Woodcraft idea has possessed me all my life. In 1875, when I was a boy of 14, I founded in Toronto a "Robin Hood Club" whose object was to practice outdoor life, combining the Woodcraft of Robin Hood and of Leather-stocking. Among other things, its Rangers were to use only bows as weapons and abstain from the use of matches in fire lighting. The club did not last long, but the dream never left me, and from time to time I made attempts to realize it.

In the "Two Little Savages," I give some of these attempts. The cabin in the ravine north of Toronto and the teepee in the woods of Sanger with Sam and Guy, were personal experiences, and most of the little adventures recorded were actual happenings.

In 1896, after years of roving life on the Plains and in far countries, I settled down near New York, and about 1897 began again with my dream. In furtherance of this, I published in the *Ladies' Home Journal* (1902), a series of chapters on the Woodcraft idea and organization. The first article appeared in May, though of course written the previous autumn. The result was the Blue Heron Tribe of Woodcraft Indians formed in New York State.

On the first of July, at Summit, N. J., I founded the first tribe that I personally led. Since then, the idea has grown and spread in spite of younger rival organizations that have secured a larger share of public notice.

During the 13 years following 1902, the Woodcraft Headquarters was at Greenwich, Conn. In 1910, I was head of a committee that organized the Boy Scout work in New York. Its aims and activities were nearly the same as those of the Woodcraft Indians, and I continued head of both, hoping to unite them as one body, being Chief Scout of the Boy Scouts of America. In 1915, I realized that this was impossible; their methods were too widely apart. The Woodcraft alone provided a plan of recreation for both sexes and all ages. The Boy Scouts no longer needed me, therefore I resigned from that group to devote all attention to the Woodcraft.

In December of that year, I opened its first New York office at 11 West 34th St., and secured Philip D. Fagans as Executive Secretary.

In 1917, all the tribes were incorporated as the Woodcraft League of America.

In Europe, Woodcraft organizations using our Birch Bark Roll have been formed in England, Czechoslovakia, Poland, Russia, France and Belgium. All are doing well, growing steadily and flying the flag that stands for

Pleasures not bought with money;

Outdoor recreation for old and young;

Development along the four ways: the Body Way, the Mind Way, the Spirit Way and the Service Way.

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THE WOODCRAFT IDEA

An eminent educator asked me not long ago to tell him, in a sentence, about the Woodcraft League. I answered: "It is a man-making scheme with a blue sky background."

"That sounds all right," he said, "but does not explain its methods."

To which I replied: "It is something to do, something to think about, something to enjoy, something to remember, in the woods, realizing all the time that *manhood,* not scholarship, is the aim of all true education. It works with a continual recognition of the four ways along which one should develop—the body way, the mind way, the spirit way and the service way. It is, first, last and all the time, recreation—recreation for old and young, male and female. It stresses outdoor life, though it has an alternative program for town life and indoor times."

Since its foundation in 1902, half a dozen organizations have followed the Woodcraft, more or less imitating its activities, but wholly differing in immediate aims and results.

Thus, one or more were designed to be feeders for the army by preparing the youth for service, adding the color of adventure to reconcile the rank and file to irksome duties. Another was planned to shed a halo of romance over the ordinary home duties of a girl.

Others—most others, indeed—have encouraged the childish following of trades and professions by giving honors for these, assuming that thereby they are helping a boy to choose his life work.

To these I repeat in reply:

Woodcraft is recreation, preferably out of doors.

Unlike some other organizations, it does not deal with vocation, but with avocation. Thus, laundry work, plumbing, school teaching, banking, real estate or insurance are perfectly honorable callings, but we do not propose to give an honor to the laundress who has ironed 24 collars without singeing one, to the banker who has signed 100 successful bond issues, to the school teacher who has taught 1000 scholars, to the real estate dealer who has sold 100 lots at

double profit, to the insurance agent who has taken $100,000 worth of insurance and never landed his company in a loss, or to the plumber who has set 50 toilet seats without a leak. We rather offer to the laundress, the school teacher, the banker, the real estate man, the insurance agent and the plumber, a totally different realm for their thoughts, something into which they enter as a relaxation, something that utilizes their powers of industry and handicraft, but in a wholly different world, a realm of dreams, if you like, an open space where they can forget their laundry work, their plumbing, their banking, etc., and rejoice in the things of the imagination and the beauties of nature.

Let me illustrate in the story of the London shoe clerk. For six days in the week, morning, noon and night, he was engaged in selling shoes. He had no opportunity for recreation excepting on Sundays, when he was too tired to do anything but go, in fair weather, to Battersea Park, and lie upon the grass.

One Sunday morning, a bug came out of the grass and crawled across his hand. He was surprised to see that it was quite beautiful in color—orange with black and white spots.

Next Sunday, he had a similar experience, but this bug was brilliant emerald green. He had never thought of them as beautiful objects, but this gave him the idea. He looked about for other kinds; after several Sundays, he had at least a dozen—quite different and more or less beautiful. Then he began mounting them on pins, and he looked forward joyfully to a weekly renewal of his bug hunt.

Some friend said: "Why don't you go to the library? There are books about these things which tell their names and habits." But, alas, the library was not open on Sundays.

Another friend said: "If I were you, I would go to the museum, and ask for Professor Huxley. He is quite sure to help you."

So the poor, scared little shoe clerk screwed up his courage to call on the famous scientist. Huxley was one of those great men who are always ready to help students and, for the time being, focus all thought on the matter in hand. He received the shoe clerk most kindly, sent to the library for books, helped him to name his specimens, and told him to come again whenever he needed help.

So this shoe clerk found another field, a new world into

which he could enter when free from his shop duties. It infused joy into his otherwise sordid life, and he kept right on till he became the best authority on the insects of the London parks.

Huxley, addressing his class, told them of this young fellow and said: "That is what I wish every one of you to do. Follow your calling, your vocation, with all your energies in business hours, but at other times, have some avocation, something that your heart is in, a corner of the realm of the imagination, a big field or a little field, according to your gifts, but one in which you are the best authority, in which you are the king."

So the Woodcraft idea deals not with the shoe clerk in his counter-jumping hours, his vocation, but with his avocation; not with his commercial exploits, but with his Sundays, when he was King of the Bugs of Battersea Park.

The few trades or vocations that are recognized in our official Manual, are part and parcel of outdoor life and camping, or intimately associated with them.

In giving shape to the recreational activities of Woodcraft, the founder has made a lifelong study of human instincts, recognizing in these age-old, inherited habits of the race, a weapon and a force of invincible power, never forgetting that instincts may go wrong and be a menace; also that to thwart or aim at crushing an instinct is courting disaster.

For example, the instinct to play. This dominates all young animals of high type, and gives, indeed, the training they need for their life work:

Or the gang instinct, which is the real religion of all boys between 8 and 18. At that age, they care little what the teacher or the preacher thinks of them, but they do care what their gang thinks. The hardest punishment any boy can receive is expulsion from the gang. "The fellers won't let me play with them" is the cry of a broken heart. And the crime for which it usually is meted out is "peaching," that is, treachery to the gang.

Similar power and possibilities are found in the instinct of initiation, the habit of giving nicknames, the love of personal decoration, the propensity to carve one's name in public places, the craze to make collections of stamps, shells,

specimens, etc., the compulsion of atmosphere, the power of little ceremonies, the love of romance, the magic of the camp-fire.

All of these and many more are incorporated in our plan.

One keen observer, noting how completely we utilized the life forces, defined Woodcraft as "Lifecraft." Another, struck by its practicability everywhere, said it was "Where you are, with what you have, right now." Another said it was "fun for male and female, old and young," with these three underlying rules:

First, your fun must not be bought with money. Make your fun; Woodcraft shows you how.

Second, your fun must be enjoyed with due decorum. No one must be hurt in body, spirit or pocketbook.

Third, the best fun is that which appeals to the imagination. Physical fun has its place, but its zest is apt to pass with one's youth; joy in the realm of the imagination grows with one's years, and increases with each indulgence in it. At the end of a long life, it means more than at the beginning.

Now that I have laid such emphasis on recreation, let me justify the same by referring to some well-known facts.

According to many authorities, half our boys go wrong, make a failure of life, are more or less of a burden on society, and in a large and unnecessary proportion, become criminals. Some sociologists have put the number higher than half, some lower. But whatever it may be, there is a vast, deplorable wastage.

Why? Are 50 per cent. of the boys born bad? Certainly not! Modern science tells us that about one in 2,000 is born bad,—that is, a pervert, a moron, one destined to be a nuisance, a pathological case that needs hospital treatment really,—not jail.

How, then, is it that we have 50 per cent. going bad? The answer is simple: wrong methods of upbringing, and especially, wrong methods of amusement.

In order to appreciate the importance of recreation, one must keep in mind:

First, the universality and youth-long persistency of the play instinct;

Second, its measureless potency, for it dominates the child at the formative period of body and character.

The Woodcraft way is an application of these ideas to the development of young manhood and womanhood. For, wrong play has more to do with making boys bad, than wrong preaching. The first false step is nearly always taken under the thoughtless, boisterous desire to have some fun, to blow off superfluous animal energy; and not knowing how else to do it, the boys get into mischief.

The Woodcraft way is the answer to this problem. It does not teach children to work. They learn that soon enough when the right age comes. But it does aim to give to men and women of all trades and professions and in all walks of life an avocation that is wholly apart from their vocation or profession,—something that will be a source of pleasure and recreation as long as they live.

A MESSAGE FROM THE CHIEF

There is a winding deer trail by a stream in the pine woods, and the glint of a larger breadth of water through the alders, with stars in the grass, a high shady rock for the nooning, and a bell-bird softly chiming.

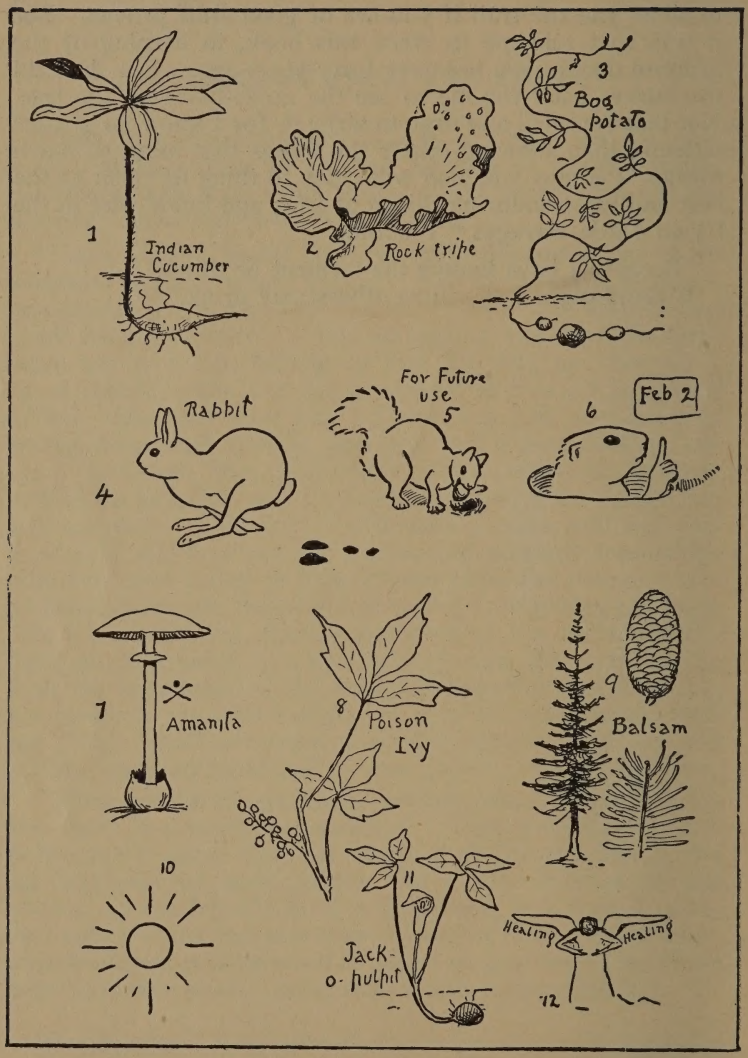
I have always found it very, very pleasant to go there whenever my life would permit. But for long the entrance was hidden from me, and I never should have seen it had I not found a Guide. I was struggling and heart hungry, worn out and lost, hoping to find the way and fearing I never should, when one day a wonderful creature appeared to me. She was very old, I know, but She seemed very young, fresh and athletic, and She had a kind look in her eyes. She said, "Ho, Wayseeker, I have seen your struggle to find the pathway, and I know you will love the things you will see there. Therefore, I will show you the trail, and this is what it will lead you to: a thousand pleasant friendships that will offer honey in little thorny cups, the seven secrets of the underbrush, the health of sunlight, suppleness of body and force unfailing, the unafraidness of the night, the delight of deep water, the goodness of rain, the story of the trail, the knowledge of the swamp, the aloofness of knowing, the power to see a bird when you hear its note, the upbuilding things which are never taught in schools; a crown and a little kingdom measured to your power, but all your own.

"These are the things I offer, because you have persevered, but there is a condition attached: When you discover the folksiness of some tree, the compact of bee and bloom, the all-aboutness of some secret, the worthwhileness of the swamp, or the friendship of a frog-pond, *you must in some sort note it down and pass it on to another truly a Wayseeker, that the liquid gold turn not to vitriol in your hand;* for those who have won power, must with it bear responsibility."

Woodcrafter! that same Fairy Godmother is waiting for you just beyond that bank of pussy willows in the Springtime, she is waiting in the alder bloom of Summer, and later when the maple reddens the swamp. Faunima, Spirit of

the Wild Things and of Woodcraft is she, and very willing to show you the trail if you are of good stuff proven. She it was that told me to write this book, in keeping of the promise that I gave her over forty years ago, when she held the bushes back for me to see the guide-blaze on the tree. Not that I needed any urge to write it, for I know no greater pleasure than showing others the things that mean so much to me. Perhaps you also will come to think of them as the best and most enduring things of life; and know why in the "Two Little Savages," I wrote:

"Because I have known the torment of thirst,
I would dig a well where others may drink."



Twelve Secrets of the Woods

THE WOODCRAFT AIMS

The Woodcraft League aims to set before our youth an ideal figure physically strong, dignified, courteous, self-controlled, happy in helping, equipped for emergencies, wise in the ways of the woods, in touch with the men of affairs, of *such all round development* that he can quickly be made a specialist in any needy place, and filled with a religion that consists not of mere observances, but of a spirit which makes one desired and helpful here today.

Its purpose is to teach the outdoor life for its worth in the building up of the body and the helping and strengthening of the soul; that one may go forth with the seeing eye and the thinking hand to learn the pleasant ways of the woods and of life, that one may be made in all wise, master of oneself; facing life without flinching, ready to take one's part among his fellows in all the problems which arise, rejoicing when some trial comes that the Great Spirit finds him the ruler of a strong soul in its worthy tabernacle.

The Woodcraft League believes that its message comes to the people of America, young and old, rich and poor.

The work of the League is divided as follows:

The Big Lodge of the Woodcraft League for Boys from twelve to eighteen.

The Big Lodge of the Woodcraft League for Girls from twelve to eighteen.

The Big Lodge of the Woodcraft League for Adults, men and women over eighteen.

(For these three groups, this Birch Bark Roll or Woodcraft Manual is the official handbook.)

The Little Lodge of the Woodcraft League for children under twelve. (Scroll published separately.)

The Family Lodge of the Woodcraft League for the entire family. (Special material furnished.)

Certain adult tribes devoted to the mystic side of Woodcraft, have been organized as Red Lodges or Sun Lodges.

All are members of the Woodcraft League and may wear the badge of the League, a white shield with blue horns.

THE SEVEN SECRETS OF WOODCRAFT

The Fourfold Law. From the Great Central Fire are four pathways,—the Body Way, the Mind Way, the Spirit Way and the Service Way. Along these four all men must go if they would be truly men. And each of these leads to a lamp, a little fire that we light from the Great Central Fire. These lamps are Beauty, Truth, Fortitude and Love. From these four, issue the twelve laws of Woodcraft, and this is the secret of the Fourfold Fire.

The Medicine in the Sky. This is perhaps the greatest secret: that the sun rays have power to purge away many of the worst ills that afflict mankind. Tubercular troubles of all kinds find their deadly enemy in the sun. To most of us the sun rays are a wonderful tonic. One in fifty, perhaps, because of some physical defect, is unable to stand it. This is the test: as long as it is pleasant, it is good; if unpleasant, it is bad, for pain is nature's protest against injury.

The Sacred Fire. The rubbing stick fire has always been the sacred fire, the "Need Fire." You can make it if you follow the directions in this Birch Bark Roll, with balsam fir in the north and east, with cedar in the south, with yucca stalks in the southwest. This is the sunlight bottled up in the wood, and it comes forth again under the power of the bow. With this we light the Great Central Fire of Council. It is the symbol of the one Great Spirit.

The Bread of the Woods. In every part of the wilderness there is a food that a starving man can find to save his life. In all parts of the United States, where there are ponds and slow streams, we can find the Wapato or Duck-potato. Its leaf is like a slender arrow head and its root bears a nutritious bulb as big as a walnut.

In all the eastern part of Canada and the United States, the Bog-nut or Indian Potato abounds in low bush land. It is

a climbing plant with purple flowers, and leaves composed of 5, 7, or 9 leaflets. On its roots are strings of the bog nuts about the size of hickory nuts.

In all the prairie country we find the Indian Turnip or Pomme Blanche.

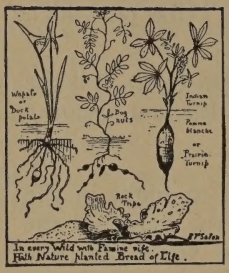
In all the far north, we find the Rock Tripe on which Richardson and Franklin lived for months.

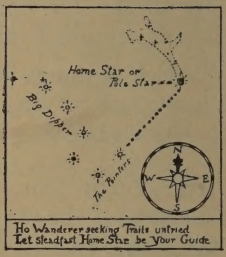
In each region is at least one such starvation food. It is the pleasant task of the Woodcrafter to search for and discover this hidden blessing in his home land.

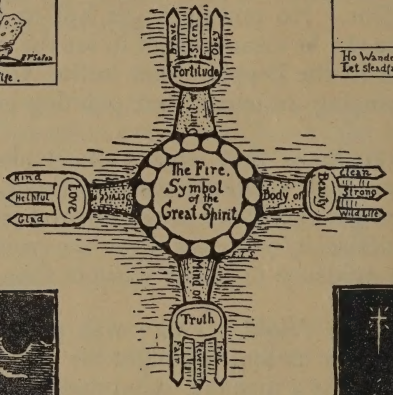
The North Star. No one need get lost at night in the wilderness if the sky be clear enough to see the stars; for the seven stars, that is, the Dipper, point to the North Star, the Home Star, swinging around it, but pointing ever to it.

Vigil. Do you know that when you sit alone all night by a fire in some high sheltered place, without food, books or company, you get very close to the Great Spirit? And if you earnestly desire it, you may hear the voices and will surely have the guidance of better wisdom than your own.

The Peace of the Night. There was a time when our grandmothers taught us that the night air was poison. We know now that this is a mistake. God does not put out any worse air at night than in the daytime. Only it is cooler. And there is danger of being stung by malarial mosquitoes at night if we are not protected. We know now that the air of the night is not only cooler, but more tonic, a power for nerve rest. We know that the Angel of the Night brings healing under her wings. The weary, the nerve-wracked, the sleepless, may trust themselves to the outdoor night with certainty of blessed repose.







The Seven Secrets of Woodcraft

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ORGANIZATION AND GENERAL INFORMATION

ORGANIZATION AND GENERAL INFORMATION

WOODCRAFT MEN AND WOMEN

In the beginning, Woodcraft was the only science known to man, because he lived in the woods, and there had to master the things of his everyday life.

Thus it gave him skill with his hands, speed with his feet, as well as knowledge of all wild nature. It taught him to swim and be brave as well as to obey his leader and be true to his clan. The first time he failed in any of these things might easily mean death. Those who survived were the ones who had learned by heart all the big lessons of Woodcraft. It was not only so then, but it has always been so, and is so to-day.

All the great men who have made history were trained first in the school of Woodcraft. Nimrod, the mighty hunter, who built the city of Nineveh; Sardanapalus, the lion-killer, the Monarch of Assyria, who, by force of his own arms overcame two lions that attacked him at one time; Brennus, the Gaul, who could shoe his own horse and who was able to master all Rome; Rollo, the sea king, who could steer his own ship in the wildest water and landed in Normandy to establish order and lay down laws that are now accepted all over the world; Washington, hunter, woodsman, frontiersman, farmer and army scout, able to run, wrestle, command or obey; Abraham Lincoln, hunter, pioneer, woodsman, axeman, farmer, deck-hand; Robert E. Lee, hunter, woodsman, horseman, planter, farmer.

Women too have shown the Woodcraft way to be the way of heroism. Grace Darling, the hardy fishergirl, the housekeeper to her father, who watched at the Longstone Lighthouse and risked her life with undaunted courage in the midst of terrible storms to save the lives of shipwrecked men, women and children. Nancy Hanks Lincoln, the pioneer, the home-maker, who molded her son Abe along the lines of integrity, and developed those rare and noble moral traits which have given to Lincoln his spotless character and ever-enduring fame.

The Woodcrafter to-day does not have to study the trail to see what beasts have gone to drink, or put his ear to the ground to know if the buffalo herd is coming; but he knows that in the city the telephone book is the key to the business world. He does not have to smell the wind to learn where the jungle is burning, but he knows where the fire department box is and how to turn in an alarm. He does not have to look up and down the stream for crocodiles before swimming over, but he watches both ways before crossing the street. He need not study the scratches on the trunk for guides to camp, but he notes the name of the street when turning the corner, and in the midst of noise and excitement he keeps his head and knows his way as his forebears kept their wits in the midst of a herd stampeded; otherwise, they, themselves would have had no descendants.

It is in his nature to learn again the trees and plants and to understand the message of any sound in the woods or fields. And because he loves them, he protects the beautiful things of his country. He sees the wonders of the skies and is touched by the mystery of the stars. He knows where to camp; how to sleep; how to cook; how to live comfortably in primitive conditions. And, trained in the far back game of clan, he is thoughtful at home and helpful alike to younger children and older folk. The calm fortitude, built up of manifold training, teaches him to meet friend or foe, pleasure or danger, simply, and bravely. Whatever his situation may be he does his best, conscious of the Great Spirit's presence, and honors Him in his life.

The Woodcraft Girl of to-day is healthy. She knows how to live so as to have the overflowing sense of power. She is eager to get acquainted with the things in nature, the birds, the trees, the flowers, and to protect the beautiful things of her country. She sees the beauty of the sky and knows something of the mystery of the stars. She knows where to camp, how to sleep, how to cook, how to live comfortably in primitive conditions. She knows, too, how to make home happy and attractive, how to make her clothing, how to care for and make friends with the little children. She knows how to meet people simply and in a manner which makes every one at their best. She is brave in the presence of external dangers and in facing her own problems. She does her best, whatever her station may be, conscious of the Great Spirit's presence and honors Him in her life.

Woodcraft says to all who would know the secrets of the woods, who would know the strength which comes from service and the secret trail to the upland of success: come, learn the meaning of the Council Ring, the Council Fire, and the friendship of the Tribe.

As you learn them the other things will come into your heart as gently as the crystal is formed in the heart of the rough hard emery rock, to be known at length as the best and rarest of all gems.

These are the things that Woodcraft built into us in the beginning; these in their total are *High Manhood and Womanhood.*

ORGANIZATION

To Become a Woodcrafter

One may easily become a Woodcrafter, either by joining a tribe already organized, or by forming a new tribe. Get together six boys or girls, twelve years of age or over, and a man or woman twenty-one years of age to act as Guide. Let each read the Woodcraft Birch Bark Roll carefully so that they may know what Woodcraft is. Send to Headquarters for Application for Charter. Then select a name for the tribe, usually of historic or special interest and often an Indian name; also select a totem. Have the Guide sign the Application for Charter. Send the Application with 50 cents for each member to Headquarters, where the Council of Guidance will act on your Application and give your tribe a charter.

To Form a Tribe

The tribe is the unit of organization, consisting of not less than six, nor more than fifty members. The Guide directs the work of the bands, and is responsible to Headquarters.

In the beginning it is wise to have the officers temporary or for a short time only. Elect, or have the Guide appoint, a Leader, a Tally Keeper and Wampum Keeper. Decide the time and place of your meetings, the dues (about five cents a week is usual), and other matters of a similar nature.

You should then divide the group into Bands of not less than three or more than ten. Each Band should elect, or the Guide appoint, a Leader, and if meeting separately, a Tally Keeper and Wampum Collector, who shall report to the Tribal officers.

Vow of the Head Chief. (To be signed with name and totem, if any, in the Tally Book.) I give my word of honor that I will maintain the Laws, see fair play in all the doings of the Tribe, and protect the weak, and I will not ask anyone to do what I am not willing to do myself.

Vow of each Member. (To be signed with name and totem, if any, in the Tally Book.) I give my word of honor that in all matters of Woodcraft, I will obey the Chief and Council of my Tribe, and if I fail in my duty, I will appear before the Council when ordered, and submit without murmuring to their decision.

Charter

The Charter certifies that the Tribe is registered at Headquarters and entitles the Tribe to a definite place in the Woodcraft League, to recognize achievements according to the Woodcraft Birch Bark Roll and to wear the badges of the League. With the Charter comes a Guide's Scroll of Authority. The charter fee covers all the expenses of chartering a group. Also see page 16. Individual badges of rank should be purchased as needed. See page 19, also page 22.

The Charter must be renewed each year.

Band Meetings

Each Band should select a Band name and totem. The Band should hold a weekly meeting followed by a Tribal meeting (of all the Bands), or it may be decided to make the Tribal meetings less frequent.

A Meeting Place

One of the very first problems the Tribe will have to face is that of providing a place to meet. It should be comfor-

table, clean, quiet, and large enough to seat the Tribe in a circle. For the Band meeting a smaller room will do. If the room is used by others it will be necessary to use it without change; but when a Tribe has entire control of a room, or when the room is used by more than one Tribe, it will be possible to fix it up so as to suggest an outdoor Council Ring, the interior of a log cabin or stockade. For the outdoor Ring see page 169.

Councils

In the Woodcraft League the meetings of the Bands and Tribes are called Councils. A weekly meeting would be called Regular Council, a meeting with a more elaborate program and with visitors is called Grand Council. A meeting of the Guides and officers is called High Council. One at least of the Guides should familiarize himself with the running of the Council, as soon as possible.

When in camp three kinds of Council are held in the Woodcraft Council Ring:

1. The *High Council* of the Chiefs and Guides daily, and at other times when called, arranges programs.

2. The *Regular or Common Council* of all the campers every night from seven to nine o'clock. At this we have some business (in the awarding of honors), some campfire stunts or challenges, and a little entertainment.

3. *Grand Council.* This is usually held once a week. Every one comes in full Woodcraft regalia. Visitors are invited. Business except when very interesting, is dispensed with, and a program of sports and amusements, chiefly for the visitors, is carefully prepared. This is "Strangers' Night" and they should be entertained, not bored.

The Meaning of the Council Ring

Why do we sit in a circle around the fire? That is an old story and a new one.

In the beginning, before men had fire, they were forced to sit up in the trees and shiver all night as they looked down at the shining eyes in the bushes below—the eyes of fierce creatures ready to destroy them.

But fire, when it was found, enabled man to sit on the ground all night, for the brute beasts feared it and stayed afar. It afforded him protection, warmth, a place of meeting and comfort. All the good things that we think of when we say "home" belong to the place around the fire. And when man began to think of such matters, he accepted the fire as the Great Mystery. Still later, as he realized that the Sun was the Great Mystery by day, he reasoned that there could not be two great mysteries; therefore, the Invisible Cause behind these two must be the one Great Mystery; and in this was the first thought of true religion.

All of these things are deep in our nature, ground in through the ages as we sat about the fire of wood that was our nightly guardian in the forest. And all of these ancient thoughts and memories are played on, whether we realize it or not, when we gather in a circle about the Council Fire.

Then, too, a circle is the best way of seating a group. Each has his place and is so seated as to see everything and be seen by everybody. As a result each feels a very real part in the proceedings as they could not feel if there were corners in which one could hide. The circle is dignified and it is democratic. It was with this idea that King Arthur abolished the old-fashioned long table with two levels, one above the salt for the noble folk and one below for the common herd, and founded the Round Table. At his table all who were worthy to come were on the same level, were brothers, equal in dignity and responsibility; and each in honor bound to do his share. The result was a kindlier spirit, a sense of mutual dependence.

These are the thoughts in our Council Ring. These are among the reasons why our Council is always in a circle and if possible around the fire. The memory of those long-gone days is brought back again with their simple, reverent spirit, their sense of brotherhood, when we sit as our people used to sit about the fire and smell the wood smoke of Council.

Decorum of Council

In the Council no one may stand except on legitimate business. No one may cross or remain within the open

space, except the Chief presiding, the members speaking or performing, and the Keeper of the Fire when attending to his duties. Nevertheless the Fire Keeper must not tend the fire at a time when it will interfere with any performance or distract attention at an important moment.

For assent or approval, we say "How"; for "No" we say "Wah"; the Chief at the "Council Rock" is addressed "O Chief," and speaks not from the chair, but from the "Council Rock." Any one wishing to speak, arises, salutes, giving the Woodcraft sign as given on page 17, says, "O Chief" and waits until the Chief recognizes him by name or gesture, thus giving the sole right of speech for the time. All others sit down.

When a member arrives after the beginning of Council, and there is danger of disturbing the proceedings, he stands outside the ring until the Chief looks at him, then salutes and says: "Oh Chief, may I enter?" (Or if the Indian words are preferred: "Ho, Itanchanka, en mla, hay?") And the Chief replies "Enter!" (Or, in the Indian: "Teema u!") The member then takes his seat without crossing the Council Ring.

It is not proper to whisper in Council, nor to laugh when a serious matter is being presented, nor look around much, nor heed not the speaker, nor should one make a noise or tap with one's feet or hands, or with a stick, or chew or eat or lounge about, or lie down, nor turn to look when some one arrives late, but in all ways act as though each speaker were great and important, however much he may be otherwise. For this is good manners.

After the Omaha Tribal Prayer, disperse in silence.

No dogs allowed in Council and no babies.

See chapter on story-telling.

Indoor Council

For indoor councils it is often desirable to have an "indoor council fire" which is made by connecting one or more electric bulbs, covering the lights with orange crepe paper and then building around it a "log cabin fire." Of course, nothing burns but the light but the effect is very striking and the expense is slight.

Sometimes also candles are used. They should be well guarded.

Order of Doings in Council

Opening Call to Council (See p. 10.)
Lighting of Fire (preferably with rubbing sticks) (See p. 219.)
Reciting of Laws (See p. 11.)
Appointment of Officers
Roll Call
Tally of Last Council
Business arising out of Tally
Report of Wampum Keeper
Scout Reports (See p. 260.)
Left-over Business
Honorable Mention
For Good of Tribe (Complaints, etc.)
Honor Badges
New Business
New Members, Initiations, etc.
Announcements
Rouser (See p. 75.)
Challenges, games and other forms of entertainment
Omaha Tribal Prayer. (See p. 69.) Now disperse in silence.

The Three Calls to Council

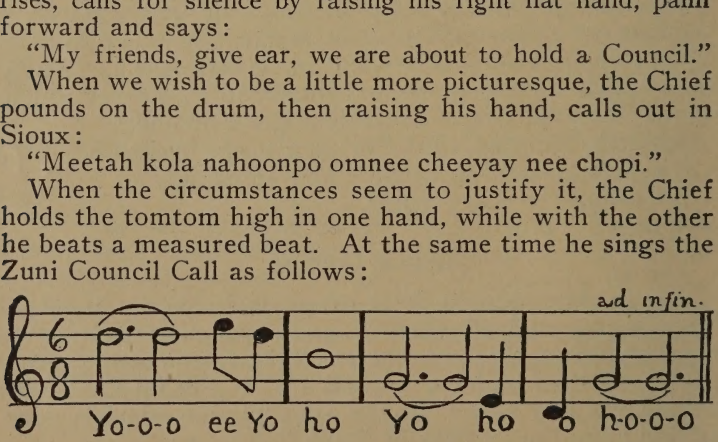
When we wish to be short and businesslike, the Chief rises, calls for silence by raising his right flat hand, palm forward and says:

"My friends, give ear, we are about to hold a Council."

When we wish to be a little more picturesque, the Chief pounds on the drum, then raising his hand, calls out in Sioux:

"Meetah kola nahoonpo omnee cheeyay nee chopi."

When the circumstances seem to justify it, the Chief holds the tomtom high in one hand, while with the other he beats a measured beat. At the same time he sings the Zuni Council Call as follows:



Sometimes all three calls are used at the same Council, with a word of explanation between.

THE WOODCRAFT LAWS

The following short form is that usually given by the Chief in his brief explanation of the Fourfold Fire:

The four Lamps lighted from the Great Central Fire are Beauty, Truth, Fortitude and Love.

From each of these Lamps issue three rays:

Be brave, be silent and obey,
Be clean, be strong, protect wild life alway;
Speak true, be reverent, play fair when you strive,
Be kind, be helpful, glad you are alive.

The following slightly longer form is that usually used when one member other than the Chief lights the four Lamps and recites the Laws:

This is the Lamp of Beauty:

1. Be clean; both yourself and the place you live in.

2. Understand and respect your body. It is the Temple of the Spirit.

3. Be the friend of all harmless wild life. Conserve the woods and flowers, and especially be ready to fight wild-fire in forest or in town.

This is the Lamp of Truth:

4. Word of honor is sacred.

5. Play fair; foul play is treachery.

6. Be reverent. Worship the Great Spirit and respect all worship of Him by others.

This is the Lamp of Fortitude:

7. Be brave. Courage is the noblest of all attainments.

8. Be silent while your elders are speaking and otherwise show them deference.

9. Obey. Obedience is the first duty of the Woodcrafter.

This is the Lamp of Love:

10. Be kind. Do at least one act of unbargaining service each day.

11. Be helpful. Do your share of the work.

12. Be joyful. Seek the joy of being alive.

In the case of Grand Council, the long, litanic form as follows, may be used:

This is the Lamp of Beauty. From it are these three rays:

1. Be clean,—both yourself and the place you live in. For there is no perfect beauty without cleanliness of body, soul and estate. The body is the sacred temple of the spirit, therefore reverence your body. Cleanliness helps first yourself, then those around, and those who keep this law are truly in their country's loving service.

2. Be strong. Understand and respect your body. It is the temple of the spirit, and without health can neither strength nor beauty be.

3. Protect all harmless wild life for the joy its beauty gives. Conserve the woods and flowers, and especially be ready to fight wild-fire in forest or in town.

This is the Lamp of Truth. From it are these three rays:

4. Hold your word of honor sacred. This is the law of truth, and any one not bound by this cannot be bound; and truth is wisdom.

5. Play fair, for fair play is truth and foul play is treachery.

6. Be reverent. Worship the Great Spirit, and respect all worship of Him by others, for none have all the truth and all who reverently worship have claims on our respect.

This is the Lamp of Fortitude. From it are these three rays:

7. Be brave. Courage is the noblest of all attainments. Fear is in the foundation of all ill; unflinchingness is strength.

8. Be silent while your elders are speaking and otherwise show them deference. It is harder to keep silence than to speak in the hour of trial, but in the end it is stronger.

9. Obey. Obedience is the first duty of the Woodcrafter. Obedience means self-control, which is the sum of the law.

This is the blazing Lamp of Love. From it are these three rays:

10. Be kind. Do at least one act of unbargaining service each day, even as ye would enlarge the crevice whence a spring runs forth to make its blessings more.

11. Be helpful. Do your share of the work for the glory that the service brings, for the strength one gets in serving.

12. Be joyful. Seek the joy of being alive—for every reasonable gladness that you can get or give, is treasure that can never be destroyed, and, like the springtime gladness, doubles, every time with others it is shared.

INITIATIONS

When brought into some new group such as the school or club, one is naturally anxious to begin by making a good impression on the others, by showing what one can do, proving what one is made of, and by making clear one's seriousness in asking to be enrolled. So also those who form the group; they wish to know whether the newcomer is made of good stuff, and is likely to be a valuable addition to their number. The result is what we call initiation trials, the testing of the newcomer.

The desire to initiate and be initiated is a very ancient, deep-laid impulse. Whenever one tries to suppress it by regulations, it becomes secret and dangerous. Handled judiciously and under the direction of a competent adult guide, it becomes a powerful force for character building, for inculcating self-control.

In Woodcraft we carefully select for these try-outs a test to demonstrate the character and ability of the newcomer, and the initiation becomes a real proof of fortitude, so that the new boy is as keen to face the trial, as the Tribe he would enter is to give it.

The Initiation Trials

The trial is given to the candidate when his name is proposed for membership—that is, posted on the Totem pole where it remains for several suns. In camp a shorter time may be allowed at the discretion of the leaders. It should be something bearing on the candidate's besetting sin. It should be incapable of causing injury. It should be approved by the Council. The following have been used:

1. *Silence.* Keep absolute silence for six hours during the daytime in camp, while freely mixing with the life of the camp. In the city keep silence from after school till bedtime.

2. *Keep good-natured.* Keep absolutely unruffled, for one day of twelve hours, giving a smiling answer to all.

3. *Exact Obedience.* For one week give prompt, smiling obedience to parents, teachers, and those who have authority over you. This must be certified to by those in question.

4. *Make a useful woodcraft article,* such as a basket, a bench, a bed, a bow, a set of fire-sticks, etc.

5. *Sleep out, without a built roof overhead,* for seven nights consecutively, or 30, not consecutively. (Sleeping porch allowed by special permission of Council.)

6. *Business Test.* Bring to a given place at a given time two, or more, willow rods exactly alike, straight peeled and smooth, of a stated length. If a minute late, or a fraction of an inch wrong, or a trifle different, it is a failure.

7. Give up all such indulgences as chocolate, candies, ice creams, sodas, etc., for two weeks.

8. *Lone Camp.* Go forth alone into the woods at sunset, out of sight and sound of camp, or human habitation. Take blankets, axe and matches, etc., and make yourself comfortable overnight, not returning till sunrise.

Any trial of self-control or attainment approved by the Guide may be used, if sufficient to equal the above, but not likely to be dangerous under any circumstances.

BLUE BUFFALO
1902
On white ground.

FLYING EAGLES
1902
Black and white on red.

BLUE HERONS
1904
Blue on green.

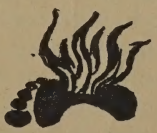
HORNED
KINGBIRDS
1902
Black and white on pale red.

SINAWA
1903
Black on red.

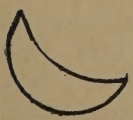
BLACKBEARS
1906
Black on red

AHMEEKS
1909
Black on red.

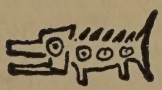
SILVER FOXES
1904
Black on white.



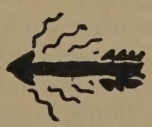
RED TRAILERS
1903
Red on pale yellow



MOON BAND
1905
Yellow on blue.



OWENOKES
1904
Red with black lines
on pale blue.



BLAZING ARROW
Red on pale yellow.

Membership Ticket

The Woodcraft membership ticket is signed by the Chief and Executive Secretary, with a space for the name of the local tribe, the name of the member, and the name of the local Head Guide. It also contains the Twelve Laws of Woodcraft. As part of the Charter outfit, a ticket for each member is supplied.

TITLES AND OFFICERS

BAND—A group of not less than three nor more than ten members under a Band Leader and a Guide.

TRIBE—A group of not less than two Bands, that is, at least six members, chartered from Headquarters and empowered to confer Badges and Degrees according to the Laws of the Woodcraft Birch Bark Roll under a Chief and a Head Guide appointed by Headquarters. The maximum number in a Tribe is fifty members.

TRIBAL COMMITTEE—A committee of three or more adults who co-operate with the Guide and guarantee the continuance of the tribe.

HEAD GUIDE—One at least twenty-one years of age, of good character, associated with some Woodcraft Tribe and actually giving time to leading in Woodcraft work. Also qualified or willing to qualify within a year as Gleeman or Council Leader. (See Degrees.) Is responsible to Headquarters for work of Tribe.

GUIDE—One at least eighteen years of age, of good character, willing to give time to leading a Band in Woodcraft work. Is commissioned by Headquarters upon recommendation of the Head Guide.

CHIEF—A member of a tribe appointed as Leader by the Guide or elected by the members of the Tribe with the Guide's approval. He acts as the representative of the members (should learn to run the Council), and co-operates with the Guide in conducting the work of the Tribe. These two offices (Chief and Guide) may be held by the same person.

Band Leader—A member of one of the Bands appointed as leader by the Guide or elected by the members of the Band with the Guide's approval. He acts as the representative of the members and co-operates with the Guide in conducting the work of the Band.

Tally Keeper—A member of the Tribe appointed by the Guide, or elected by the Tribe with the approval of the Guide, to act as Secretary and keep the Tally.

Wampum Keeper—A member of the tribe appointed by the Guide, or elected by the Tribe with the approval of the Guide, to act as Treasurer. Sometimes it may be wise to have one member hold both this and the preceding office.

Band Tally and Wampum Collector—A member of a Band appointed by the Guide or elected by the Band with the approval of the Guide to act as Secretary for the Band and to collect dues of the members. Reports to the Tribal officers.

Father and Mother Councillor—Adult relative or friend, interested in work, welfare, and support of the Tribe, but not necessarily giving as much time as a Guide.

Fire Keeper—A member of a Band or Tribe appointed by the chief to attend to the Council Fire for any given period.

Dog Soldiers—It has been found very valuable in some cases to have a group of selected members of the Tribe who will assist at times when discipline is necessary. This group may be called by any appropriate name, but should be used only in emergency.

Ranger or Far Scout—A person authorized by Headquarters to establish tribes and promote the Woodcraft Program in a given territory.

Shaman—A Guide who has qualified as Camper, Camp Doctor, Camp Cook, and Council Leader.

Salute

The salute is given with the right hand with all the fingers closed to the palm, except the little finger and the thumb and the hand raised level with the head. The form of the hand is meant to simulate the Horned Shield.

Ranks in the Big Lodge

The first three ranks must be taken in order.

Wayseeker. To qualify for the Big Lodge—that is, to enter as a Wayseeker—one must:

Be over 12 years of age.

Know the 4 watchwords and the 12 laws.

Take one of the initiations.

Be voted in unanimously by the other members of the group.

Having passed this, the candidate becomes a Wayseeker and receives the Big Lodge badge of the lowest rank.

Pathfinder. This is the next higher rank. To win the rank of Pathfinder, the Wayseeker must have won 12 coups, 3 under each Lamp.

When these tests have been satisfactorily passed, the member is called out in Council, the Guide then in charge reads a list of the coups won, cuts from the horned shield the green tassels and burns them, hands the candidate a thread of scarlet silk to be embroidered—a red spot—in the doorway of the teepee, saying as he does so: "Thus do I, acting for the Council, take away the green tassels of inexperience, and with this silk, I light your teepee fire. You are now a Pathfinder."

A *Sagamore* is one who has won 24 coups and must be at least 14 years of age.

A *Grand Sagamore* is one who has won 24 grand coups.

An *Eagle Sagamore* is one with 36 coups.

A *Sachem* is one with 48 coups.

A *Grand Sachem* has 48 grand coups.

An *Eagle Sachem* has 72 coups.

A *Sachem Ipawa* is one with 100 coups.

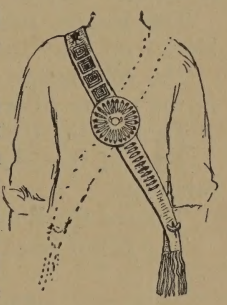
Local tribes are authorized to confer the ranks of Wayseeker and of Pathfinder. Before taking any action on claims for the rank of Sagamore or higher ranks, the Head Guide must forward to the Field Council of the District (if in the district of a Field Council; otherwise to National Headquarters) the original coup claims. The Committee on

Honors will there pass upon them, make record of same and return them to the local group. Without their action, these titles may not be approved or conferred.

Woodcraft Honor Band

When one is received into membership, he should have placed on his shoulders the Woodcraft Honor Band which may be secured from the Great Central Lodge.

The Woodcraft has never emphasized a uniform in the ordinary sense, chiefly because of the expense entailed. Its two visible and personal symbols have always been the Honor Band and the Sagamore Robe. On them, we display our honors. On them, we lavish effort to achieve a brilliant effect.



The Honor Band was not completely worked out, so that a temporary band was in use for some time. We have now developed a satisfactory band.

It is of flame colored felt, 3 inches wide, with a 6-inch shield on the breast and fringes at the ends. Those who wish may make these fringes of buckskin, but those supplied by headquarters are of felt of the same color as the band. It is secured by a button which each one will prefer to make for himself. Some use a bear's tooth, some a piece of deer's antler, carved, some a bone or wooden button, or perhaps a piece of shell, shaped to his own fancy.

The new Honor Band accommodates the honors of a Sagamore, and yet looks well when first hung on the shoulder of the Wayseeker. At once, it turns any costume into a uniform. No matter how differently those in a group are dressed, the Honor Band on each makes all seem to be in uniform, light or dark,—a uniform with a flaming shoulder strap and shield. It is visible afar off. It is unlike the regalia of any other organization.

When the rank of Sachem is reached and passed, a second Honor Band is needed and allowed. This is worn from the opposite shoulder, crossing the first band under the shield. (See dotted line.)

Badges

The symbol of the Woodcraft League is a white shield with blue horns.

The banner is the Horned Shield on a flame-colored background with buckskin fringe.

The badge of the Big Lodge has in addition a blue teepee with a white doorway on it.

That of the Coup is a black and white eagle feather embroidered in wash silk or made of celluloid.

That of the Grand Coup is the same with a red or yellow tuft or a bead on the end.

That of the Sagamore has a crown with five points.

Those of the Grand Sagamore, Eagle Sagamore, Sachem, Grand Sachem, Eagle Sachem and Sachem Ipawa are made in the same way as the Sagamore badge with the addition of tufts, etc. See ill.

The badges for degrees are squares (with a design in black) on the Zuni coil.

The robe badge for degree is the Zuni Coil of a larger size in the centre of which is the emblem of the degree.

That of the Guide has a trail on it.

That of the Shaman has on it the four mountains of attainment.

That of the Ranger has the trail and a horseshoe.

The honor band is described on p. 19.

The Meaning of the Badges

The badge of the Woodcraft League is an ancient Indian totem composed of a pair of horns attached to a shield; the horns meaning "attack" and the shield "defense"; the idea symbolized being, "trained and ready." This is used by all in the League, whether boy or girl, man or woman.

The blue on the badge is to remind us of "Blue Sky," which is our watchword. For under the blue sky, in the sunlight, we seek to live our lives; and our thoughts are of "Blue Sky," for that means "cheer"; and when there are clouds, we know that the blue sky is ever behind them, and will come again. The flame background is to remind us that the Council Fire is the focus of all our thought. It is the flame of the Spirit.

The blue teepee reminds us that the teepee, the only movable dwelling that permits of any open fire inside, was the abode of the first Woodcrafters of this country. It always faced the east with the sunrise that symbolizes the ever-renewed promise of the day. The fire within it was the symbol of the Great Spirit and the smoke was the established emblem of prayer, ascending from the mystery of the Fire below to be lost in the mystery of the far above.

The two green tassels are the badges of inexperience; and when by achievements the Woodcrafter is entitled to have them removed, the meaning of the symbolism is as evident as it is happy.

WOODCRAFT BADGES

Wayseeker

Pathfinder

Sagamore

Grand Sagamore

Eagle Sagamore

Sachem

Grand Sachem

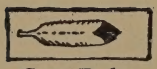
Eagle Sachem

Sachem Ipawa

Guide

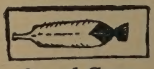
Shaman

Ranger



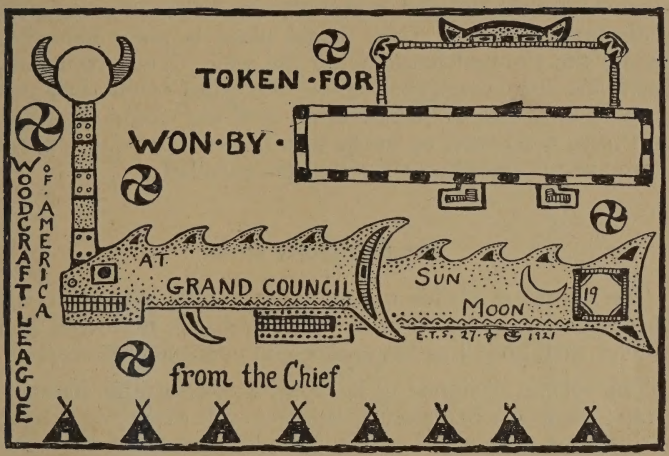
Coup Badge

Zuni Coil
Degree Badge



Grand Coup

TOKEN CARDS



The Woodcraft Folk have never cared much for prizes. A prize is literally something of value taken by force from its rightful owners. But human nature likes to have a token or symbol of victory, something that one can take home and keep. To meet this need, we have prepared a Token Card as above. These cards are 3½″ x 5¼″, printed in black on a buff background. But it is the intention that they should be embellished in water colors. The token is to be filled in with names, etc., and here gives little idea of the charming woodcrafty effect of the full color finish.

These cards are on sale at the Great Central Lodge.

COUNCIL ROBES

Tribal Robe

Many tribes have made tribal robes. They are best made of some bright colored material, since they are essentially a display property. Their usual place is hung banner-like behind the Council Rock or on the wall. The proper ornaments are the Woodcraft shield, the tribal totem, any pictographic incidents of local history and any coups or degrees that have been won, by every member of the tribe, provided there are not less than six members enrolled.

The Sagamore Robe

The proudest visible ornament of the Woodcrafter is the Sagamore robe, the right to wear which is bestowed at the time of installation as Sagamore and continues thereafter.

The robe is designed to be, first, a comfortable blanket or wrap; second, a bedspread; third, a wall drape, or a banner background in council. But its ornaments are the Woodcraft record of the wearer, and may be embellished and beautified to any desired extent. The robes of our Sagamores, are, perhaps, the most picturesque adjuncts of all our Woodcraft work.

While much of its plan is left to individual taste, there are one or two essentials that all must accept.

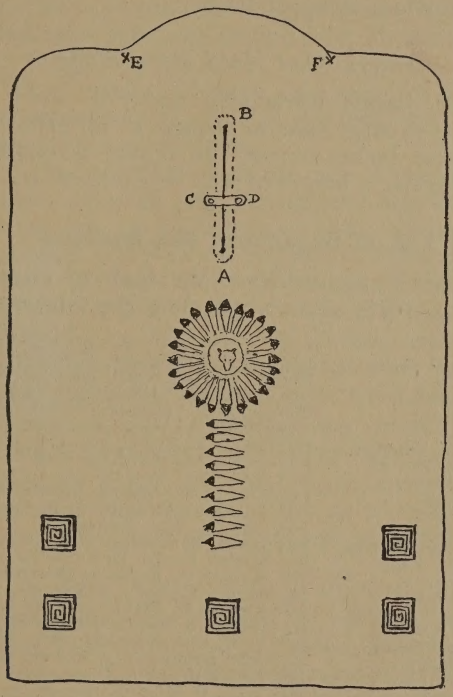
First, it is a robe, and when spread out, lies flat.

Second, it must have on it the crown of 24 white feathers about the wearer's personal symbol or totem, and somewhere also the horned shield, the symbol of Woodcraft, also the wearer's tribe totem.

To all this, you add as won your additional coup feathers and your degree emblems, the former in a row below the crown, the latter as a border to the robe.

These are the essentials, but it is urged that the robe be of soft, beautiful material, any color you please so it be beautiful. The best pattern or cut is the one given in the illustration. This is 4½ feet wide and 6½ feet long. Its peculiar features are as follows: The head hole which is

15 inches long and begins 4½ feet from the bottom, and which, when worn, is closed by the buttoned throat latch, CD. At E and F, but on the under side, are two tie strings, fastened on. They are about 18 inches long each, and are meant to tie around the wearer's waist under the robe while it is worn with the head through the head hole.



Individual taste finds full scope in the decoration. Buckskin fringes, shoulder bands, borders of beadwork or quill work, spangles of wampum beads, shells or imitation elks' teeth, pockets or pouches, painted, appliqued or embroidered pictographic records,—all are used and allowed, so long as the above named essentials are adhered to.

But above all, first, last and all the time, remember that the robe is made a thing of beauty.

Errors That Have Been Made

Ugly color, harsh, intractable material. The crown is usually made so large that its design is not seen when it is worn. Twelve inches across the crown is enough. This gives each feather a length of 4 to 4½ inches.

List of Sagamores and Sachems

The following have achieved the rank of Sagamore and Sachem up to 1918, after which they are too numerous for listing.

Sagamore	Plenty Coups,	1905 Douglas A. Miller, Greenwich, Conn.
"	Deerfoot,	1906 Loraine M. Wood, Rutherford, N. J.
"	Deerslayer,	1906 Willis M. Monroe, Cos Cob, Conn.
"	Kingbird,	1910 James F. Gilkinson, Middletown, Conn.
"	Eagle-eye,	1911 George L. White, Cos Cob, Conn.
"	Little Thunder,	1912 Albert E. Finiels, Cos Cob, Conn.
"	Little Beaver,	1912 Richard L. Burdsall, Port Chester, N. Y.
"	Karonawa,	1912 Paul Cecil Spoffard, Port Chester, N. Y.
"	Ningonit,	1912 Edward D. Graber, Greenwich, Conn.
"	Onjima,	1913 Alexander P. Leverty, Bridgeport, Conn.
"	Moskuas,	1914 Clive C. Day, Summit, N. J.
"	Rolling Thunder,	1914 James C. Maples, Port Chester, N. Y.
"	Little Eagle,	1914 Samuel Comly, Port Chester, N. Y.
"	Kijika,	1914 Richard A. Reynolds, Bridgeport, Conn.
"	Wapoos,	1914 Robert C. Hull, Bridgeport, Conn.
"	Ishka Chissakid,	1914 Harvey C. Went, Bridgeport, Conn.
"	(No name)	1914 Horace T. Smith (Resigned)
"	Wita-tonkan,	1916 F. R. Hoisington, Jr., Rye, N. Y.
"	Tatanka,	1916 John Louis Liecty, Brookline, Mass.
"	(No name)	1916 Donald Colpitts, Kineo, Me.
"	Alkonda,	1918 F. R. Hoisington, Rye, N. Y.
"	Pah-hlee-oh,	1918 Elizabeth Hoisington, Rye, N. Y.
Grand Sagamore		1917 Ellsworth Jaeger, Buffalo, N. Y.
Sachem	Silver Fox,	1915 S. Miller Jordan, Los Mochis, Mexico.
"	Migwanag,	1915 Lewis F. Hall, Bridgeport, Conn.
"	Airtalk,	1917 Clifford Appleton, Bridgeport, Conn.

Council Names

From time to time Headquarters receives requests for lists of Indian names, from which the Tribe in question wishes to select one or more to bestow on its members.

First of all the Headquarters has no such lists. Second,

if it had, it would not give them out. Third, a name once given is the exclusive property of the one who receives it, and must never again be given. For this reason, every name must be registered at Headquarters.

There have been some unfortunate misconceptions about the bestowal of a Council name. To be named before the fire with the full ceremony, is the last and highest honor that a Woodcrafter can win. In a camp of 50, it is nearly impossible that more than one or two each summer could justly be allowed the honor.

At one time, nearly 20 years ago, we gave the name for some great achievement. Now it is given only for a career or as a recognition of character.

Thus, Eagle-eye, the Sagamore, was 3 years in winning his; Sagamore Alkonda (the Strong-one) was 7 years. Reference to the list of Sagamores in the Birch Bark Roll shows that some achieved the Sagamore Rank without winning a name. We have many thousands of members in the League but only a few scores who have won names.

Any one asking to be named is thereby showing himself unworthy of the honor. The suggestion must come from the High Council,—that is, the meeting of the Leaders.

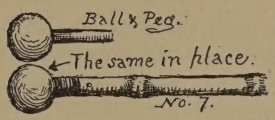
This naming is a very ancient and honorable custom. There are many precedents in Scripture for the practice.

The names are mostly in Indian form, since they had this custom, and their traditions fit in best with our Council ways. But some are in English, as will be seen on reference to page 26.

The bestowal is a solemn rite, and when the winner is over 15, he is expected to take his vigil, before the final ceremony. "Keeping the vigil" means sitting alone, in some high place, in the woods, by a fire, all night, neither eating, sleeping, smoking, reading, going away, or talking,—that is, doing nothing but watch the fire from sundown around to sunrise. It was the approved custom of the young knight in the Middle Ages, before receiving his knighthood and taking his vows, and it is the established and approved custom of the men of the woods today.

In rare cases, to meet a practical difficulty, the vigil has been permitted in town and indoors; but, of course, by a fire, and conforming as far as possible to the above conditions.

TRIBE AND COUNCIL ACTIVITIES
COUNCIL GAMES



Tub Tilting

Tub tilting is immensely popular at night by the blazing campfire, as well as in the city at the indoor councils. It is an exciting game, tests the ability of the contestants, and can be made quite scientific.

For this, we use two small tubs, about flour-barrel size, or, better still, two stools made with a heavy plank top, circular, 14 inches in diameter, and supported by four strong legs spreading widely at the bottom. The top of the stool should be about two feet off the ground.

The stools are set level, exactly a spear length apart, center to center. Each fighter takes his place on a stool, and his game is to put the other off the stool with a thrust of his spear. To prevent accidents, we have usually a catcher behind each man. The umpire stands alongside, near the middle.

It is a foul to use the spear as a club, or to push below the knees, to push the stool, to seize the other man's spear in your hands, or to touch the ground with the spear. A foul gives the round to the other man.

The round is over when one man is off or when he fouls.

It is a draw when both go off together.

They change stools and spears after each round.

The battle is usually for three or five rounds.

Several good parries are well known. One is to use your spear handle as in bayonet parries. The best players parry much by wriggling the body. Often, when over-

balanced, one can regain by spinning completely around.

The correct spears are made thus: Take six feet of the butt-end of a bamboo an inch thick. Make a ball of hardwood, about two inches in diameter, with a central projecting peg about 3 inches long and ¾ inch thick. Stick this into the top of the bamboo. Make it secure with a lashing and one or two very thin nails driven in.

Pad the head an inch thick with the ordinary horsehair stuffing that is used in furniture, and bind all with strong burlap, sewing it at the seams and lashing it around the bamboo with string. This completes the dry land spear. If for use in the water, make a final cover out of rubber cloth. This keeps the spear dry. A completed spear weighs about 1½ pounds.

> I have seen a good many campers try tilting on the land or on the water and make an utter failure of it, by reason of the absurdly clumsy, heavy spears used. A green sapling was cut for handle, and the end tied up in a bundle of rags that was 18 inches through. This was hard enough to lift, when dry, and as it usually soon fell into the water and got sopping wet, its weight became trebled, and one could not use it as a spear at all.

Indian Leg Wrestle

The contestants lie flat on their back on the ground or floor, facing in opposite directions, and lying side by side. They then lock arms and as the judge counts one, two, they each raise the leg next to their opponent so as to be ready when the official says "three" to lock legs. Each tries to turn the other over back up. The one who succeeds in doing this wins. The game is to win two out of three rounds.

Navajo Feather Dance

An eagle feather hung on a horsehair, so as to stand upright, is worked by a hidden operator, so as to dance and caper. The dancer has to imitate all its motions. A marionette may be used. It is a great fun maker.

Witch's Broom Ride

Two strong chairs are set face to face and far enough apart so that an ordinary house broom reaches from one to the other, the head resting on one, and about 4 inches of the stick on the other. Four handkerchiefs are now hung, one on each top corner of the chair backs. The Witch is armed with a stout wand, exactly 30 inches long.

She sits on the broom handle, not on the head, but body and both feet supported on the stick. She balances by holding one end of her wand on the ground.

Without falling, she must flick away in turn each of the hankies.

If she sets foot or hand on a chair, or touches the ground with her foot or hand, it counts as a fall. She may use whichever hand she chooses, but must change the wand from hand to hand while balanced.

Some of our Witches are so expert that they use six hankies, the extra two being hung on the middle of each chair back. Some do this blindfolded.

Cats on the Back Fence

This was evolved at the Great Central Lodge out of the old game of Slaphand on a crack. A strong stick of timber 2 inches by 4, and 6 or 8 feet long, is set broadside up, with its ends resting on two chairs. The rival cats now approach on the 2 x 4 from opposite directions. With left hand behind their backs, they must slap with the right, hitting anywhere on the rival's right arm from hand to shoulder, each aiming to make the other cat fall off into the alley.

Best 2 out of 3 is the winner.

All head or body blows are fouls.

When there is a deadlock, the referee may shout "Clinch!" The cats lock hands, right in right, and soon a decision is reached by one or both going off in the alley. Sometimes, for variety, the players knock each other off with pillows.

Buzz

Though easy to learn when seen, it is hard to explain this game on paper. Three boys play it. Two are *wings*, one the *sting*. They stand in a row, each with his feet about a yard apart. The sting in the middle, the right foot of the left wing touches the left foot of the sting, the left foot of the right wing touches the right foot of the sting. The sting wears a small cap.

The right wing protects his left cheek with his flat right hand on it, palm out, the left wing protects his right cheek with flat left hand on it, palm out.

The sting keeps up a loud buzzing, and turns menacingly from one to the other. He takes the first good chance to slap one of the wings on the open hand that protects the cheek. The one slapped has the right instantly to knock off the sting's cap. But he must act on the immediate comeback. The sting's only escape is by ducking.

If the cap is knocked off, the wing that does it counts 5. If the wing lifts a foot from the ground, the sting counts 1. If the wing hits the sting when not actually hit by the sting, the sting counts 1. If the wing hits the sting on any but the actual immediate comeback, the sting counts 1. If the wing touches the ground with a hand, the sting counts 1. If the sting lifts a foot or touches hand to the ground, the wing on that side counts 1. 10 is game.

Posing and Pantomimes

There is no end to the funny possibilities of a dumb-show without accessories, which is what we mean by "Posing" and "Movies."

Poses, sometimes called Statues or *Tableaux vivants,* are simply ideas or expressions or attitudes, given by several persons at the same time. They strike the pose and keep it without moving till the decision is made as to which has given the best expression to the thought. The following subjects are suggestive:

Answer to a masher.
On seeing a mouse.
On seeing a ghost.
On feeling a cramp.

Raleigh and Queen Elizabeth.
Romeo and Juliet.
Ireland, Egypt, Scotland, etc.
Joy, sorrow, fear, pain.

Movies embody the same idea, except that the story is carried out in action instead of by a single pose. The following have been used successfully:

A musician playing his own composition.
Noah watching the animals entering the ark.
Daniel in the lions' den.
Red Riding Hood and the wolf.
On meeting a ghost.
A cop moving a tramp who was asleep on a bench in the park.
A judge sentencing a flapper for speeding.
Eve receiving the apple from the serpent.
Adam leaving Eden.
Eating an orange.
Eating grapes.
Eating a slice of watermelon.
Sewing on a button.
Putting on one's hat for a walk.
Taking off one's shoes.
A cop stopping a car that took a wrong turn.
A joy ride in a Ford.
Barber shop.
Eliza crossing the ice.
Little Miss Muffet.
Picking a thorn out of a dog's foot.
Beauty and the Beast.
Sleeping Beauty.
Releasing a cat from a rat trap.
Brutus stabbing Caesar.
Killing a rattler.
Woman buying a ticket.
Mother Carey making the flowers come.
Old Mother Hubbard.
Professor of hypnotism.
Mary and her little lamb.
Robinson Crusoe.
Stepping on a tack.
Long hike in new shoes.
Pharaoh's daughter finding Moses.

Hamlet.
On finding a corpse.
Indian woman finding her husband's body on the battle field.
Jay walker.
Girl going to bed.
Woman who has lost her purse.
Operation in a hospital.
Political speech.
Catching a big fish.
Benjamin Franklin signing Declaration of Independence.

Hat-trimming

Half a dozen persons, more or less, are placed in a circle within the ring, backs to the fire, and each given a 10c hat (like those used by farmers), some strips of colored crepe paper, some flowers from the fields, if convenient, some pins and a pair of scissors. They are allowed two minutes to trim the hat with the materials provided and without suggestions from each other or the audience. If one of the contestants finishes before the time is up, he rises and puts on the hat. At the end of the two minutes, all must walk around the ring, wearing their own style creations. The audience or judges decide on the winner. Points are given for originality, style, becomingness and speed in trimming.

Crab-walk

The contestants are placed in a straight line across one end of the ring. At the word "Go!", each one crosses the right leg back of the left, then the left back of the right, alternating at each step, but aiming to progress forward so as to reach the line at the other end of the ring. The first one to reach the other end and arrive back at his own starting point, wins the game.

Spider Race

In this, the contestants go on all fours, but with their backs downward and face to the sky, as they race around.

Talk-fest

Two contestants are placed facing each other. At the word "Go!", both start talking on any subject, regardless of the other. The object is to keep up a steady stream of talk until the referee shouts "Time!" at the end of one minute. Points are given for sequence of thought in the speech, success in getting the story across, action to illustrate the story, and continuity of sound.

Song-fest

This is conducted in the same way as the talk-fest, except that the contestants sing instead of talking—different melodies at the same time.

Whistling Match

This is another variation of the song-fest and the talk-fest. The opponents whistle different tunes simultaneously.

Cock Fighting

Make two stout sticks, each 2 feet long (broomsticks will do). Pad each of these on the end with a ball of rag. These are the spurs. Make an 8-foot ring. The two rivals are on their hunkers, each with a stick through behind his knees, his hands clasped in front of the knees, and the arms under the ends of the spurs.

Now they close; each aiming to upset the other, to make him lose his spurs or to put him out of the ring, any of which ends that round, and scores 1 for the victor. If both fall, or lose a spur, or go out together, it is a draw. Battle is for 3, 5, or 7 rounds.

One-legged Chicken Fight

In this each of the two contestants stands upon one leg, holding up the other by grasping it at the ankle with the opposite arm behind the body. The other hand, also behind, grasps the supporting arm at the elbow. Points are scored as above, but it is defeat also to drop the up leg.

The Battle Royal

A new variant of the old One-legged Chicken Fight has been developed. Instead of 2 Chickens, a dozen enter the ring. Each charges at whomever is next him, until only one is left standing.

After 3 such battles, the 3 victors run off a final.

This has the advantage of engaging a larger number of contestants than the Chicken Duel.

Whittling Match

As a pure handicraft stunt, it is well to use the whittling match. Get some ordinary four-foot building laths; cut them up into one-foot lengths, rejecting those that have big knots in them near the middle. Each contestant is given one of these pieces and, using his own knife, whittles it into a fire-lighter or sliver stick; that is, cuts it into long shavings or slivers which are still attached to the stick.

All begin at the word "Go!" and stop either in one minute or when some one has finished. They are allowed one hundred for perfection. They are docked five points for every sliver that falls to the ground, and five points for every sliver under four inches long. Other points are taken off for bad style. The idea is a full fuzz-stick that will surely catch fire quickly from one match.

It is very helpful if this stunt can be run off in the afternoon and the fuzz-sticks saved for lighting the evening council fire.

Swat-the-Blindman

Swat-the-Blindman is another merry stunt. For this we need only two lively boys (or girls), a couple of rolled-up newspapers, and a stick or rope two feet long.

The contestants are blindfolded and face each other in the ring, each armed with the newspaper rolled up as a club. Each now grasps one end of the short stick; the only object of this is to keep them reasonably near to each other, and they hold on throughout the bout. The object of the game is to hit the other fellow on the head with the paper club. The umpire says, "Are you ready?" and slaps No. 1 on the shoulder to begin.

No. 1 says: "Are you there, Moriarty?"

No. 2 must answer at once, "Yes, sir," or "Here." Then he moves his head anywhere to mislead the other, who has the right to one immediate swat. On the next round No. 2 says, "Are you there, Moriarty?" etc.

The first one to land a fair swat on the other's head wins the round. On other places it does not count. The bout is for 1 to 3 rounds. All sorts of ingenious tricks are used to mislead the swatter as to the place of the other man's head, after he has responded "Here!"

Strong Hand or Hand Wrestling

The two contestants stand right foot by right foot, right hands clasped together; left feet braced; left hands behind. At the word "Go!" each tries to unbalance the other; that is, make him lift or move one of his feet. A lift or a shift ends the round.

Battles are for best out of 3 or 5 rounds.

Stung, or Step on the Rattler—Sometimes Called Poison

This is an ancient game. A circle about three feet across is drawn on the ground. The players choose sides, possibly one band against another, and place themselves alternately holding hands, to make a ring around this, and try to make one of the number step into the poison circle. He can evade it by side-stepping, by jumping over, or by dragging another into it.

Each one who steps in the circle is stung and sits down.

Sometimes we use a newspaper with a switch lying across it. When all on one side have been stung, the other side become the Rattlers, and may sting each of the others with the switch across their hands. Or else all the losing side must run around the Council Ring three times while the winners slap them behind.

If the game is dragging because the players let go, we make a shackle, i.e., a 6-inch circle of small rope, one between

each 2 players, the hand of each hooked into it. When they break, the one without the shackle is responsible and considered stung.

Solemnity

The idea is to have one member challenge another to a test of ability to keep one's "face straight." Facing each other and in the presence of the crowd, each looks into the other's eyes to see which will smile or laugh first. Speech and gesture may be introduced if desired.

OUTDOOR GAMES

Watching by the Trail

This is a game we often play in the train, to pass the time pleasantly.

Sometimes one party takes the right side of the road with the windows there, and the other the left. Sometimes all players sit on the same side.

The game is, whoever is first to see certain things agreed on scores so many points. Thus:

A crow or a cow counts	1
A horse	2
A sheep	3
A goat	4
A cat	5
A hawk	6
An owl	7

The winner is the one who first gets 25 or 50 points, as agreed.

When afoot, one naturally takes other things for points, as certain trees, flowers, etc.

Trailing

A good trailing stunt to develop alertness and observation is managed thus: One boy wearing the tracking irons is deer.

He is given 100 beans, 30 slices of potato, and 10 minutes' start. He has to lay a track, as crooked as he pleases, dropping a bean every 3 or 4 yards and a slice of potato every 20. After ten minutes' run the deer has to hide.

The trailers follow him, picking up the beans and potato slices. Each bean counts 1 point, each slice of potato 2. The one who finds the deer scores 10 for it.

Apache Relay Race

One band is pitted against another, to see who can carry a message and bring a reply in shortest time, by means of relays of runners. One quarter of a mile is far enough for an ordinary race. This divides up even 55 yards to each of eight runners. The band is taken out by the Chief, who drops scouts at convenient distances, where they await the arrival of the other runner, and at once take the letter on to the next, and there await the return letter.

A good band of 8 can carry a letter a quarter of a mile and bring the answer in about 3 minutes.

Chinese Tag

Is like the regular game of tag with this difference: the one who is tagged must keep his hand on that part which was hit when he was tagged thus making only one free arm.

Hand Ball or Bat Ball

A regular baseball diamond is used, two teams are chosen of equal number. A volley ball or indoor baseball is used, preferably the former. One team is scattered anywhere inside the bases, the other team is up to bat. The boy bats the ball with his hand. The opposing team catching the ball he has batted tries to put the runner out by throwing the ball at the runner or by touching him with it. If the runner stands still he may not be put out, but the team trying to put him out must keep the ball passing continually; one of the players holding the ball is unfair. The boy running must reach the home plate before another batter comes up to bat.

Scouting

Scouts are sent out in pairs or singly. A number of points are marked on the map at equal distances from camp, and

the scouts draw straws to see where each goes. If one place is obviously hard, the scout is allowed a fair number of points as handicap. All set out at same time, go direct, and return as soon as possible.

Points are thus allowed:

Last back, *zero* for traveling.

The others count one for each minute they are ahead of the last.

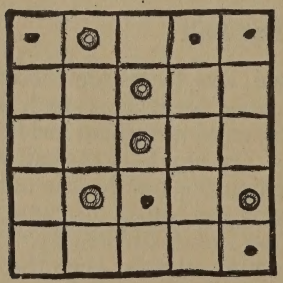
Points up to 100 are allowed for their story on return.

Sometimes we allow 10 points for each Turtle they have seen; 10 for each Owl seen and properly named; 5 for each Hawk, and 1 each for other wild birds; also 2 for a Cat; 1 for a Dog.

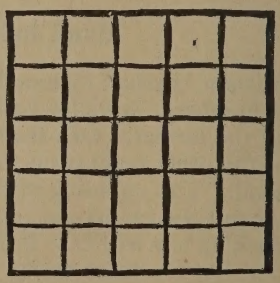
No information is given the scout; he is told to go to such a point and do so and so, but is fined points if he hesitates or asks how or why, etc.

The Game of Quick Sight

Take two boards about a foot square, divide each into twenty-five squares; get ten nuts and ten pebbles. Give to one player one board, five nuts, and five pebbles. He places these on the squares in any pattern he fancies, and when ready, the other player is allowed to see it for five seconds. Then it is covered up, and from the memory of what he saw the second player



Quicksight Game

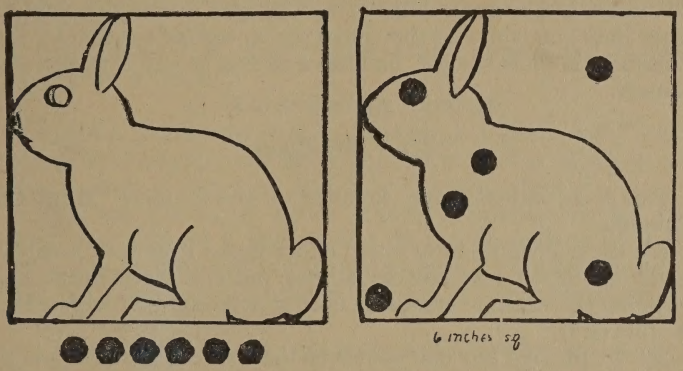


must reproduce the pattern on his own board. He counts one for each that was right, and takes off one for each that was wrong. They take turn and turn about.

This game is a wonderful developer of the power to see and memorize quickly.

Far Sight, or Spot the Rabbit

Take two six-inch squares of stiff white pasteboard or whitened wood. On each of these draw an outline Rabbit, one an exact duplicate of the other. Make twenty round,



black wafers or spots, each half an inch across. Let one player stick a few of these on one Rabbit-board and set it up in full light. The other, beginning at 100 yards, draws near till he can see the spots well enough to reproduce the pattern on the other which he carries. If he can do it at 50 yards he has wonderful eyes. Down even to 40 (done 3 times out of 5) he counts high honor; from 40 to 30 counts honor. Below that does not count at all. (See p. 399.)

Home Star or Pole Star

Each competitor is given a long, straight stick, in daytime, and told to lay it due north and south. In doing this he may guide himself by sun, moss, or anything he can find in nature —anything, indeed, except a compass.

The direction is checked by a good compass corrected for the locality. The one who comes nearest wins.

It is optional with the judges whether the use of a time-piece is to be allowed.

Hostile Spy

Hanging from the Totem pole is a red or yellow handkerchief. This is the Grand Medicine Trophy of the band. The Hos-

tile Spy has to capture it. The leader goes around on the morning of the day and whispers to the various members, "Look out—there's a spy in camp." At length he goes secretly near the one he has selected for spy and whispers, "Look out, there's a spy in camp, and *you are it.*" He gives him at the same time some bright-colored badge, that he must wear as soon as he has secured the Medicine Trophy. He must not hide the Trophy on his person, but keep it in view. He has all day till sunset to get away with it. If he gets across the river or other limit, he wins and they must pay an agreed ransom for the Trophy. If he is caught, he loses and has to pay a ransom for himself.

Tree the Coon

This is an indoor game, founded on the familiar "Hunt the Thimble."

We use a little dummy coon; either make it or turn a ready-made toy rabbit into one, by adding tail and black mask, and cropping the ears. Sometimes even a little rag ball with a face painted on it.

All the players but one go out of the room. That one places the coon anywhere in sight, high or low, but in plain view; all come in and seek. The first to find it sits down silently, and scores 1. Each sits down, on seeing it, giving no clue to the others.

The first to score 3 coons is winner, usually. Sometimes we play till every one but one has a coon; that one is the booby. The others are first, second, etc.

Sometimes each is given his number in order of finding it. Then, after 7 or 8 coons, these numbers are added up, and the *lowest* is winner.

Rat on the Lodge

Each player has a good-sized bean bag. This is the rat and is kept by the player permanently.

The lodge is any solid object six inches or more above the ground or floor. A dead-line is drawn through the lodge and another parallel, 15 feet away, for a firing-line.

The boy who is "it," or "keeper," perches his bean bag or rat on the lodge. The others stand at the firing-line and throw their bean bags at his. They must not pick them up or touch them with their hands when they are beyond the dead-line. If

one does, then the keeper can tag him (unless he reaches the firing-line) and send him to do duty as keeper at the lodge.

But they can coax their rats with their feet up to the dead-line, not beyond, then watch for a chance to dodge back to the firing-line, where they are safe at all times.

If the rat is knocked off by any one in fair firing, the keeper is powerless till he has replaced it. Meantime, most of the players have secured their rats and got back safe to the firing-line.

Sometimes it is played with round stones and is called "Duck on a Rock."

Water-boiling Contest

Given a hatchet and knife, 1 match, a 2-quart pail 7 inches or so in diameter, one quart of water and a block of soft wood about 2 feet long and 5 or 6 inches through.

First cut plenty of wood. Spend 3 minutes on it. Support your pail on 4 pegs driven in the ground or by a long stick driven diagonally into the ground. If water is handy, dip the pegs into it before placing. The contestant does everything for himself.

The water must be jumping and bubbling *all over the surface,* or it is not boiling.

If the first match goes out, contestant is usually allowed a second, but is penalized by having 2 minutes added to his time.

Nothing but the articles mentioned may be used.

Medley Scouting

The following competition in Medley Scouting took place at one of my camps. A prize was offered for the highest points in the following:

At the word, "Go," bring a leaf of sugar-maple; and tell how it differs from other maples.

Tell a short story or give a recitation.

Bring a leaf of poison ivy (wrapped in a thick paper, to avoid touching it), and describe the poison, and mode of counteracting it.

Mark off on a stick your idea of a yard.

Bring a leaf of witch hazel, and tell what it is good for.

Bring a leaf of beech, and tell how it differs from those most like it.

Dance a step; any—English, Irish, Scotch, or Indian.

Strike a match and light a lamp; both of them imaginary.

Boil a quart of water, as in the previous contest.

Make a map of North America from memory in ten minutes.

Give an imitation of some animal, actions or sounds.

Play the part of an Indian woman finding her warrior dead.

For each of the first 20 competitors, points were given; the prize adjudged by the total.

Some of these stunts may seem trivial, but there was a purpose in each, and that purpose was served. In the Indian widow, for example, we wished to select the best actor for play. Most of the boys failed. Two were good, but one, nearly the smallest in camp, was so fine that he brought tears into the eyes of many.

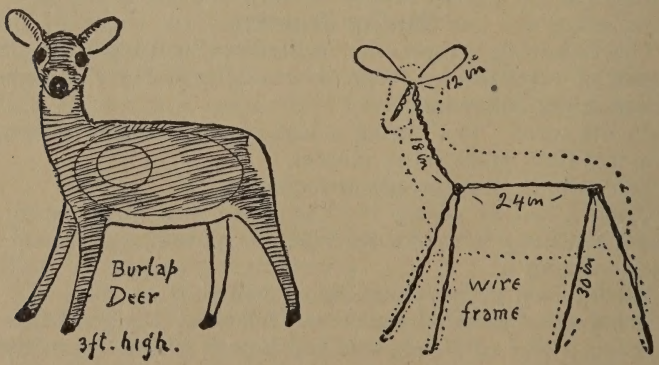
The selection of the various leaves impressed these kinds on all, especially those who failed to bring the right ones.

The animal imitation and dance was introduced to cultivate the spirit of going fearlessly in and doing one's best, however poor it might be. The imitations of monkey, lynx, cat, panther, moose, etc., developed a keen observation and a lot of good natural history that was intensely interesting as well as amusing.

The water-boiling was particularly instructive and was tried twice. The first time the winner took 14 minutes, and the second best 20. The last time, the winner's time was 8 minutes, and the second one's 10.

Still-hunting the Buck, or the Deer Hunt

The deer is a dummy, best made with a wire frame, on which soft hay is wrapped till it is of proper size and shape, then all is



covered with open burlap. A few touches of white and black make it very realistic.

If time does not admit of a well-finished deer, one can be

made of a sack stuffed with hay, decorated at one end with a smaller sack for head and neck, and set on four thin sticks.

The side of the deer is marked with a large oval, and over the heart is a smaller one.

Bows and arrows only are used to shoot this deer.

A pocketful of corn, peas, or other large grain is now needed for scent. The boy who is the deer for the first hunt takes the dummy under his arm and runs off, getting ten minutes' start, or until he comes back and shouts "ready!" He leaves a trail of corn, dropping two or three grains for every yard and making the trail as crooked as he likes, playing such tricks as a deer would do to baffle his pursuers. Then he hides the deer in any place he fancies, but not among rocks or on the top of a ridge, because in one case many arrows would be broken, and in the other, lost.

The hunters now hunt for this deer just as for a real deer, either following the trail or watching the woods ahead; the best hunters combine the two. If at any time the trail is quite lost the one in charge shouts "*Lost Trail!*" After that the one who finds the trail scores *two.* Any one giving a false alarm by shouting "*Deer*" is fined *five.*

Thus they go till some one finds the deer. He shouts "*Deer!*" and scores *ten* for finding it. The others shout "*Second,*" "*Third,*" etc., in order of seeing it, but they do not score.

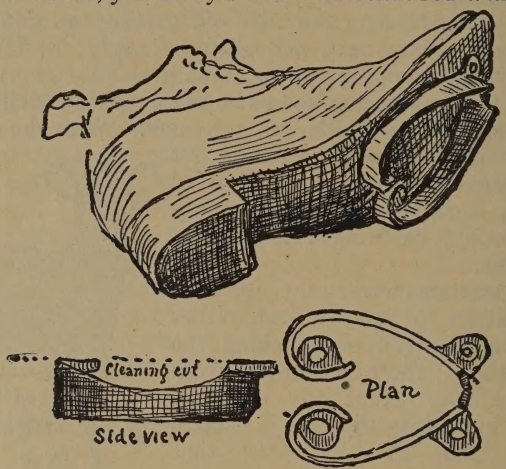
The finder must shoot at the deer with his bow and arrow from the very spot whence he saw it. If he misses, the second hunter may step up five paces, and have his shot. If *he* misses, the third one goes five, and so on till some one hits the deer, or until the ten-yard limit is reached. If the finder is within ten yards on sighting the deer, and misses his shot, the other hunters go back to the ten-yard limit. Once the deer is hit, all the shooting must be from the exact spot whence the successful shot was fired.

A shot in the big oval is a *body wound;* that scores *five.* A shot outside that is a *scratch;* that scores *two.* A shot in the small oval or heart is a *heart wound;* it scores *ten,* and ends the hunt. Arrows which do not stick do not count, unless it can be proved that they passed right through, in which case they take the highest score that they pierced.

If all the arrows are used, and none in the heart, the deer escapes, and the boy who was deer scores *twenty-five*.

The one who found the dummy is deer for the next hunt. A clever deer can add greatly to the excitement of the game.

Originally we used paper for scent, but found it bad. It littered the woods, yesterday's trail was confused with that of



today, etc. Corn proved better, because the birds and the squirrels kept it cleaned up from day to day, and thus the ground was always ready for a fresh start. But the best of all is the hoof mark for the shoe. These iron hoof marks are fast to a pair of shoes, and leave a trail much like that of a real deer. This has several advantages. It gives the hunter a chance to tell where the trail doubled, and which way the deer was going. It is more realistic, and a boy who can follow this skilfully can follow a living deer. In actual practice it is found well to use a little corn with this on the hard places, a plan quite consistent with realism, as every hunter will recall.

It is strictly forbidden to any hunter to stand in front of the firing-line; all must be back of the line on which the shooter stands.

There is no limit to the situations and curious combinations in this hunt. The deer may be left standing or lying. There is no law why it should not be hidden behind a solid tree trunk. The game develops as one follows it. After it has been played for some time with the iron hoof mark as above, the boys grow so

skilful on the trail that we can dispense with even the corn. The iron mark like a deer hoof leaves a very realistic "slot" or track, which the more skilful boys readily follow through the woods. A hunt is usually for three, five, or more deer, according to agreement, and the result is reckoned by points on the whole chase.

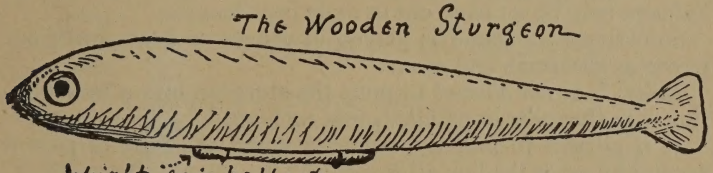
WATER GAMES

Spearing the Great Sturgeon

This water game is exceedingly popular and is especially good for public exhibition, being spectacular and full of amusement and excitement.

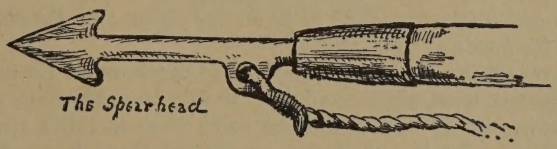
The outfit needed is:

(1) A sturgeon roughly formed of soft wood; it should be



about three feet long and nearly a foot thick at the head. It may be made realistic, or a small log pointed at both ends will serve.

(2) Two spears with six-inch steel heads and wooden handles (about three feet long). The points should be sharp, but not the barbs. Sometimes the barbs are omitted altogether. Each head should have an eye to which is attached twenty feet of



one-quarter-inch rope. On each rope, six feet from the spearhead, is a fathom mark made by tying on a rag or cord.

(3) Two boats with crews. Each crew consists of a spearman, who is captain, and one or two oarsmen or paddlers, of which the after one is the pilot. All should be expert swimmers or else wear life belts during the game.

The game. Each boat has a base or harbor; this is usually part of the shore opposite that of the enemy; or it obviates all danger of collision if the boat starts from the same side. The sturgeon is left by the referee's canoe at a point midway between the bases. At the word "Go!" each boat leaves its base and, making for the sturgeon, tries to spear it, then drag it by the line to the base. When both get their spears into it the contest becomes a tug of war until one of the spears pulls out.

The sturgeon is landed when the prow of the boat that has it in tow touches its proper base, even though the spear of the enemy is then in the fish: or it is landed when the fish itself touches base if it is also in tow at the time. The boats change bases after each heat.

Matches are usually for one, three, or five sturgeon. Points are counted only for the landing of the fish, but the referee may give the decision on a foul or a succession of fouls, or the delinquent may be set back one or more boat-lengths.

Sometimes the game is played in canoes or boats, with one player as spearman and crew.

Rules: It *is not allowed* to push the sturgeon into a new position with the spear or paddle before striking.

It *is allowed* to pull the sturgeon under the boat or pass it around by using the line after spearing.

It *is allowed* to lay hands on the other boat to prevent a collision, but otherwise it is forbidden to touch the other boat or crew or paddle or spear or line, or to lay hands on the fish or to touch it with the paddle or oar, or touch your own spear while it is in the fish, or to tie the line around the fish except so far as this may be accidentally done in spearing.

It *is allowed* to dislodge the enemy's spear by throwing your own over it. The purpose of the barbs is to assist in this.

It *is allowed to run on to* the sturgeon with the boat.

It *is absolutely forbidden to throw the spear over the other boat or over the heads of your crew.*

In towing the sturgeon the fathom-mark must be over the gunwale—at least six feet of line should be out when the fish is in tow. It is not a foul to have less, but the spearman must at once let it out if the umpire or the other crew cries "Fathom!"

The spearman is allowed to drop the spear and use the paddle or oar at will, but not to resign his spear to another of the crew. The spearman must be in his boat when the spear is thrown.

If the boat is upset the judge's canoe helps them to right.

Each crew must accept the backset of its accidents.

Canoe Tag

Any number of canoes or boats may engage in this. A rubber cushion, a hot-water bag full of air, any rubber football, or a cotton bag with a lot of corks in it is needed. The game is to tag the other canoe by throwing this *into* it.

The rules are as in ordinary cross-tag.

Tilting in the Water

For this we use the spears described in *Tub-tilting*. The spear pads should be covered with waterproof. The ordinary rules of canoe tilting are followed. Each spearman stands in the bow of his boat, on the bow-seat. His crew bring him within 6 or 8 feet of his rival, and now he endeavors to put him overboard. Points are reckoned thus:

Forcing your enemy to put one foot down off the seat 5
Forcing your enemy to put two feet down off the seat 10
Forcing your enemy on one knee 5
Forcing your enemy down on two knees . . . 10
Forcing your enemy to lose his spear 10
Forcing your enemy overboard 25

It is a foul to use the spear as a club or take hold of the enemy's spear with your hand.

The umpire may dock up to twenty-five points for fouls, or give the round to the other.

When canoes are used, the spearman stands on the bottom, so all points are by loss of spear, or by going overboard.

INDOOR GAMES

Odds and Evens

Boys form in a single line across the room and are numbered straight across. One boy is "it." He says he will call odds; then calls numbers both odd and even, but those in the line must run only on odd numbers. If any run on even they are out, also those are out who, when the line runs on an odd number, are the last to reach the given goal.

Blind Man's Buff

All players are numbered, one player is blindfolded. The others form a ring about him. The one in the centre calls out

two numbers, the players having these numbers change places at once, the one in the centre trying to catch one of them. If successful he takes the place and number of the boy caught and that player goes in the centre and is in turn blindfolded.

My Vacation

Make booklets with the pages entitled "My earliest photograph, "My latest picture," "Who went with me," "How we went," "Where we went," "Where we lived," "Some people we met," "An accident," "How it turned out," "Our happiest moments," "A near tragedy," "Finis," etc. Give each boy an old magazine, a pair of scissors and paste and he is to cut illustrations for the pages of his booklet from the magazine and can make some very amusing combinations, adding poetry if he is clever.

Names by Topics

"What names suggest birds?" Drake, Partridge, Hawk, etc.

"What names are part of a house?" Beam, Garrett, Locke, Key, Hall, etc.

"What names are part of the body?" Hand, Foote, Hart, etc.

"What names are flowers, shrubs, or grains?" Lily, Rose, Cotton, Marguerite, Rice, Berry, etc.

"What names suggest occupations?" Miller, Goldsmith, Butler, Shepherd, Cook, etc.

"What names suggest geographical formations?" Dale, Beach, Hill, Brooks, Stone, etc.

Fortune

Requiring two sets of numbered cards, the players are given these cards of one set only until all are distributed. The other set of cards, corresponding in number to those given out, are played face down on the central table (or floor if desired). Each player in turn goes to this set, places his hand upon the topmost cards and says, "The boy who has the card corresponding to this is red headed and quick tempered. He will either be a great politician or have a coal wagon" (or something else humorous, or impossible). He then turns the card over, holds it up, and finds the owner of the corresponding card. Much fun may be had if the description given was exactly opposite of the truth. The game continues by having the owner of the last card tell some one's character or fortune.

Guessing Game

The players sit in a circle; one of them is blindfolded and stands in the centre. Each player is given a number. Then the blindfolded player calls 3 or 4 numbers as 1, 5, 9, 10. The players who have those numbers jump up and change seats among themselves. While this changing goes on the blindfolded player attempts to catch them. If he does succeed in catching one he must guess who the captive is (by feeling his dress, features, etc.). If he guesses correctly his eyes are uncovered and the captive is "it." If not, the game is continued as before—several more members being called out.

Kingdom

The Guesser goes out of hearing until the group chooses an object. Then the Guesser is called and may ask any question that can be answered by "Yes" or "No," only one question of one person, and the number of questions is limited, perhaps ten or fifteen, according to the cleverness of the Guesser and the abstruseness of the object chosen. The Guesser usually begins by asking, "What kingdom is it?" and having established whether the object is in animal, vegetable, or mineral kingdom, proceeds to ask such questions as will narrow the subject down as quickly as possible to object selected.

Geography

Any number of players allowed for this game, which has often been played at a dinner table or around a campfire. The first player begins by naming a geographical place, such as a mountain, river, city, state, or nation; the next player gives another name, which must be geographical and the first letter of which must be the same as the last letter of the name given by the first player; and so on around the circle, again and again, until all have dropped out by failing to think of a suitable name and the one remaining is the winner. For instance, first player names *Alabama;* second player names *Arkansas*, third player names *Saskatchewan*, fourth player, the *Nile.*

Game of Menagerie

The players are seated in a circle. One begins thus, "As I went to the Menagerie—" His neighbor to the right asks,

"What did you see there?" He answers, "I saw a lion." The neighbor then turns to his right-hand neighbor and says, "I went to the Menagerie." The same question is then asked, "What did you see there?" The second player must then repeat the answer of the first, "I saw a lion," adding to it an animal of his own, "and a monkey." The game goes on in this way, each player putting the same question and answer of his neighbor and adding the name of another animal. "Pack the Trunk" may be played in a similar manner. Any article suitable or grotesque may be packed in the trunk.

Menagerie Party

Each player receives on a slip of paper a number and the name of an animal. e. g., 1, elephant, 2, mouse. The leader calls on each player in turn to come forward and draw on a blackboard the animal named on his slip. One minute is given to execute each drawing. The other players try to guess the animal on the board and write their guess, correctly numbered, on papers provided for the purpose. When the list has been completed the leader reads the correct list aloud and the players correct their mistakes. If there are not many artists present, the results are apt to be startling.

A Portrait Party

A modification of the last game is for the players to sit in a circle and each draw a portrait of his left-hand neighbor. The leader collects the portraits, puts a number on each to identify it, and places them on exhibition. The players try to guess the original of each portrait.

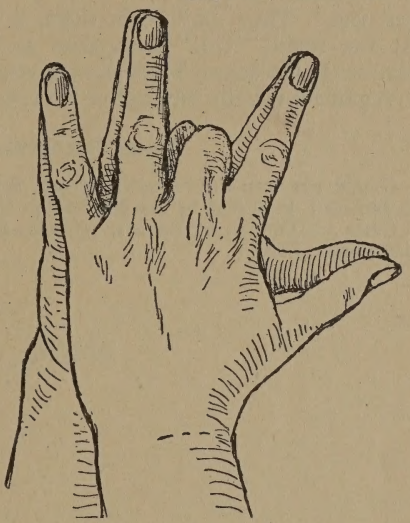
Magic Music

The player who is "it" leaves the room, while the others decide upon some action they want him to do, for instance—walk to the centre of the room and recite poetry. The player then returns and the game commences. The other players sing or hum or one plays the piano. When the player who is "it" nears his destination (in this case the centre of the room) the music grows louder and he can tell that he is on the right track. If he hesitates or goes in the wrong direction the music continues soft and low. Having at last reached the proper spot, the player proceeds to try out all sorts of stunts, until, guided by the tone of the music, he hits upon the right action (reciting

poetry). The game goes on in this way, another player being chosen each time.

Fireside Trick*

Put your hands together as in the drawing, palms also touching.



The thumbs are you and your brother. You can separate easily—like that.

The first fingers are you and your father, you can separate not quite so easily—like that.

The little fingers are you and your sister, you can separate, but that comes a little harder still—like that.

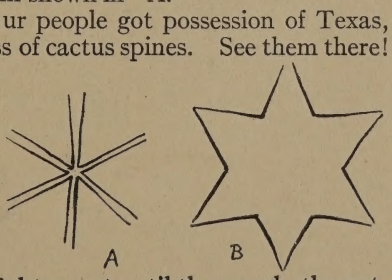
The middle fingers are you and your mother, you can separate, but it is hard—see that.

The ring fingers are you and your sweetheart, you cannot separate without everything else going first to pieces.

The Lone Star Trick*

A Texan showed me an interesting trick on the table. He took six wooden toothpicks, bent then sharply in the middle, and laid them down in the form shown in "A."

"Now," he says, "when our people got possession of Texas, it was nothing but a wilderness of cactus spines. See them there! Then they began irrigating. (Here he put a spoonful of water in the centre of the spines.) And then a change set in and kept on until they turned into the Lone Star State."



As we watched, the water caused the toothpicks to straighten out until they made the pattern of a star as in "B."

* From "Book of Woodcraft."

Feather Football or Feather Blow

This is an indoor, wet-weather game.

The players hold a blanket on the knees or on the table. A soft feather is put in the middle. As many may play as can get near. They may be in sides, 2 or 4, or each for himself. At the signal "Go!" each tries to blow the feather off the blanket at the enemy's side, and so count one for himself.

A game is usually best out of 7, 11, or 13.

Books Recommended

GAMES FOR THE PLAYGROUND, HOME, SCHOOL AND GYMNASIUM. Jessie H. Bancroft, Published by the MacMillan Company, 450 pages. $1.50

CAMP AND OUTING ACTIVITIES. (Cheley-Baker.) Published by Association Press. $1.50

SONGS

SONGS

Group Singing

There may be Woodcrafters who are little interested in athletics and not moved by the charms of handicraft, but it is very doubtful whether there are any indifferent to music. All cannot produce it, but all can enjoy it in some measure.

There can be no finer expression of team play than in group singing, and no Woodcraft Tribe will have done its best work until its members have learned to sing well, and while it is desirable that the leader be a musician, any one who can carry a tune can select good singable songs and teach them to the group.

In addition to the general songs, which may be found in all of the good collections of songs, are the songs that are particularly native to America. These are considered by many of our best composers to be of high value. Because of the fact that these native American folk-songs have not been greatly used we are including several of them in this chapter.

It is the spirit of the American folk-song that commends it. It is spontaneous, interpreting the world about us as well as the world within, offering a song and a dance for every mood and every large event in life.

THE NATION AWAITS A SONG

In the last few years many thousands of attempts have been made to write a national song, and so far as known all have been utter failures.

A glance at the material submitted shows a wholly wrong conception of a national song; indeed a wrong idea of the whole subject of song.

Apparently none of the aspirants have recognized the wide difference between a song and a poem; not one of them has recognized the difference between a poem and an anthem;

not one of them has recognized the difference between a lyric and a marching song.

A poem is a more or less pleasing succession of statements, utilizing the beauties of language and ideas; it is designed to be spoken by one voice.

An anthem is a single poem (in responsive parts originally) set to music which must be slow enough to permit enunciation by many voices singing at once.

A lyric is a slight poem, a succession of sketchy ideas, tied together by a repetitive portion, set to music, to be sung by one voice.

A national song must consist of a succession of very brief, simple, inspiring statements, alternating with a succession of mere vocables—that is, modulated rhythmic shouting which begets and vents enthusiasm, but does not count for its effect on words or enunciated ideas. It should be in marching time, for that is the time of heroic thought and action, and it must be suitable for a multitude of voices singing together. It may or may not be antiphonal or arranged in responses like the original anthem.

If these definitions are accepted and used as tests we shall find that all recent attempts at a national song have been poems of varying merit, but foredoomed to failure from their plan.

It is generally conceded that at present we have no truly national song; certainly none officially established. We rise to the "flag song" but no one considers it satisfactory or permanent. It is accepted till we get a better. An examination of its parts shows that it fails in every essential but one and in that is overdone. It is replete with heroic statement. But it is not simple; it is not good rhythm; it is not suitable for singing; it is not a marching song; it does not offer a repeated phrase of swinging, stirring vocables in which all can join.

It is unfortunate in conception. Imagine beginning our national anthem by raising a question as to whether our flag is still flying or not. We know perfectly well that it is flying, and is going to go right on a-flying.

I do not know anything to commend its rival "America" except the dignity of the music, which, however, is preempted by Great Britain.

One can select from a long list of national songs examples which have been kept alive by one or more of the essentials

already listed, in spite of their lack of the other elements. The "Marseillaise," for instance, though superb in rhythm, ring and tramp, is far overburdened with statements, for which weakness however, the national genius has found a remedy by ignoring the statements, except the initial one of each section, turning the rest into mere trumpet-esque vocables.

Very rarely do we hear more than the first two lines of the "Marseillaise." The genius of the people is greater than the genius of the man who wrote it. The fact is that it is the French national *air,* but it is *not* truly their national *song.*

On the other hand, every song that has sprung spontaneously from the heart of the people responds in form to these rules, but not always, alas! in the elevation of its sentiment. The nearest approaches in America to national song as here defined, are the negro spirituals and the college yells.

"Mary and Martha" or "Swing Low, Sweet Chariot," are good examples of perfect song form carried by ring and swing, by the appeal to the popular ear without any appeal to the higher instincts or emotions.

Shakespeare's songs are commonly correct, as for example, the page's song in "As You Like It."

> "It was a lover and his lass
> With a hey and a ho, and a hey nonino
> That o'er the green cornfields did pass
> In springtime, the only pretty ring time,
> When birds do sing, hey ding a ding, ding
> Sweet lovers love the spring."

The second, fourth, fifth and sixth lines are the repetitive portions throughout.

The traditional songs of England, Ireland and Scotland, are usually correct, although they have been curiously hybridized by the ballad, which is simply rhythmic history and has little in common with the national song.

The traditional song "A frog he would a-wooing go," is an example of perfect form in the lyric.

If we take various popular patriotic songs that our country has produced we find only three that have in any measure established themselves in the hearts and voices of the people as national songs. They are "John Brown's Body," "Yankee Doodle," and "Dixie," all three born of the heroic spirit of the time, and all filling the definition perfectly, except that

the slight statement prefacing each new explosion of vocables is unheroic; is indeed absurd, and a careful analysis shows that these are each and all of them national *airs,* not national *songs.* If some of our poets would rewrite these in accord with the genius of patriotic song, we should probably have an accepted permanent national song.

And which of our poets is competent? I hope I shall not be thought flippant if I claim that the man who can compose a successful college yell, is more likely than any other to be equipped for the problem and respond with the much-desired expression of national spirit. As a step toward the solution I suggest that one acceptable form might be this:

——————— Brief rhythmic statement suitable
——————— for one or maybe more voices.

——————— Mere vocables, modulated rhythmic
——————— shouting for many voices, repeated
——————— at alternate intervals.

Such a structural unit rendered in simple martial strains, repeated twice or thrice, might fulfil all the conditions and supply us at once with a national air and a national song—one that will answer to this, the great test, that it so exactly voices the national feeling in time of exaltation, that it becomes the spontaneous expression of noble, patriotic emotion, and fixes itself so firmly in the minds of the people that it can live without print.

Glory and Shame Rhymes

When men were more spontaneous and maybe more generally vocal in a musical sense than now, they had in use a great many glory chants or acclaims as well as some of shame or reprobation.

Thus Scott in the "Lady of the Lake" as the new Chief's bodyguard chant the Gaelic acclaim "Hail to the Chief!"

There are one or two of these in the Old Testament, and among the singing nations of Central Europe, we hear references to these greetings of high honor.

Among ourselves, the historical chant that I fear is dying out, thanks to its poor literary quality, is that to the memory

of Washington. The leader chants: "Who was Washington?" And the group chant in response:

"He was first in peace,
First in war,
And first in the hearts of his countrymen!"

It would be easy to gather a long array of similar honor greetings, but alas, they are all, or nearly all, obsolete.

As I scan our daily life—school or business—I find remaining one or two, chiefly shame rhymes, such as—

When a school boy has tattled, the rest express their detestation of this crime of crimes by singing in unison, as they point the finger of scorn at him:

"Tell-e-pie-tit,
Your tongue shall be slit,
Every dog in the town
Shall get a wee bit."

Or if a boy comes late, the rest sing:

"Dilly dilly dollar,
A ten o'clock scholar."

Another version of this is:

"A dilly, a dollar,
A ten o'clock scholar,
What makes you come so soon?
You used to come at ten o'clock,
And now you come at noon."

Or a child too ready to cry is ridiculed as

"Cry-baby, cry,
Put your finger in your eye,
Cry-baby, cry!"

But no honor rhymes at all in school. I cannot at this moment recall a single glory rhyme among adults, except perhaps the occasional and uninspiring:

"He's a jolly good fellow,
Which nobody can deny."

In most assemblages today the best we can do to recognize the entrance of some one we wish to honor is simply by stamping the feet or even standing up in dead silence. Isn't it pitiful!

Here is a perfectly natural and desirable instinct followed by a surge of admirable emotion. We wish to voice it and don't know how.

Our Woodcraft summer camps are so natural and so conducive to healthy spontaneous sentiment that they are digging up and evolving both glory and shame chants.

Thus at one camp when a boy smashed a dish, all the rest broke out into their established and disapproving

"Ah-ah—ah-ah-ah!
Ah-ah—ah-ah-ah!
Ah-ah—ah-ah-ah!"

But the glory rhymes are fortunately developing faster. Quite a number of the tribes now use

"Some folks say Blankety ain't got no style.
He's got style all the while, all the while, etc."

It is pretty poor, but a start in the right direction.

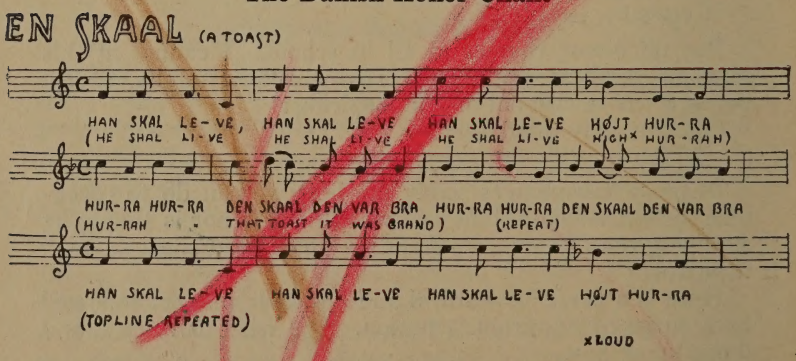
A feeble attempt is seen in

"What's the matter with Blankety?"
"He's all right!"
"Who's all right?"
"Blankety!"

It is sadly bad as art, yet it is correct in frame-work, for it begins with a question or announcement by the leader, indicating the one to be honored, followed by a rousing response from all.

All of which scattered observations go to show that here is a proper and admirable instinct that prompts us to express an honor greeting in an established rhyme or acclaim by a group. We need some good ones.

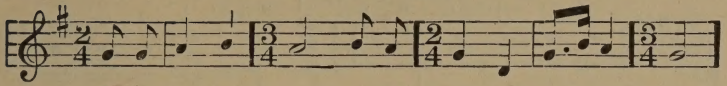
The Danish Honor Chant



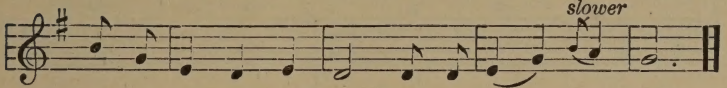
Closing Lullaby

(Dedicated to E. T. S. by Frances Densmore.)

Chippewa Cradle Song



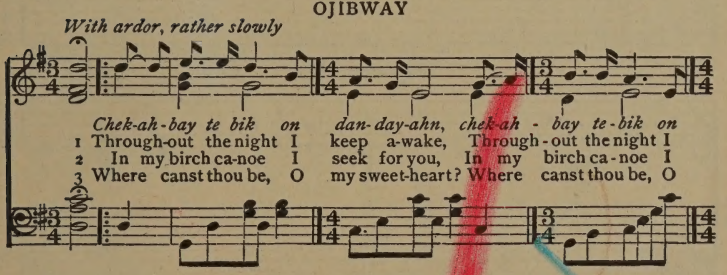
Bend-ing low to earth, We will now our si-lence keep;

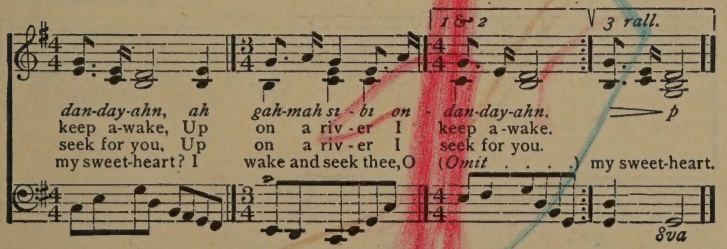


Win-ter killed all our mirth, And the Fire - flies sleep.

The Canoeist's Love Song

OJIBWAY





By permission from Frederick R. Burton's "American Primitive Music," with adaptation by Wm. Brewster Humphrey.

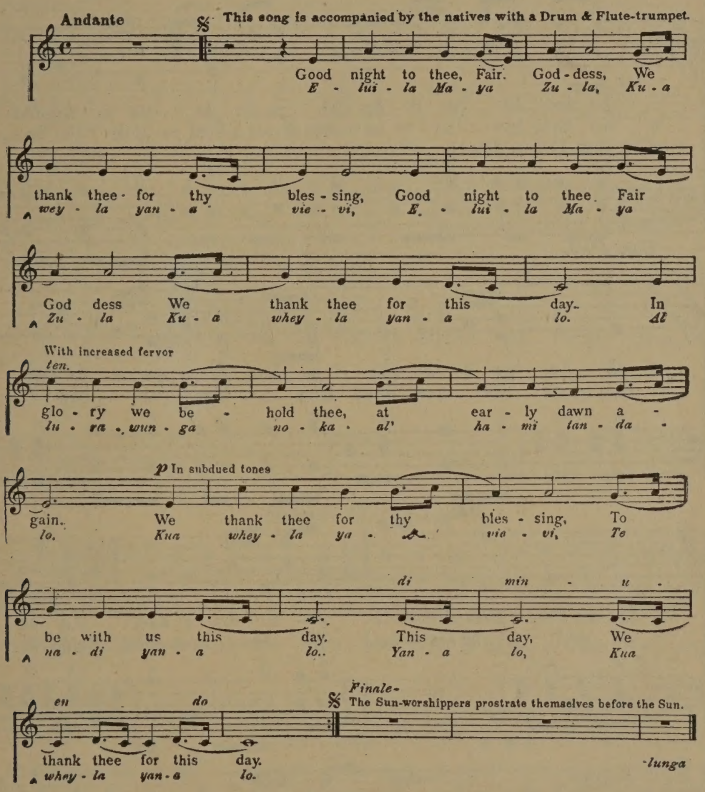
Death Song

Ojibway

From "American Primitive Music," by Frederick R. Burton.

ZUNI SUNSET SONG—

Published by Theodore Presser, Phila., Pa. Recorded and harmonized by Carlos Troyer.



Zon-zi-mon-de

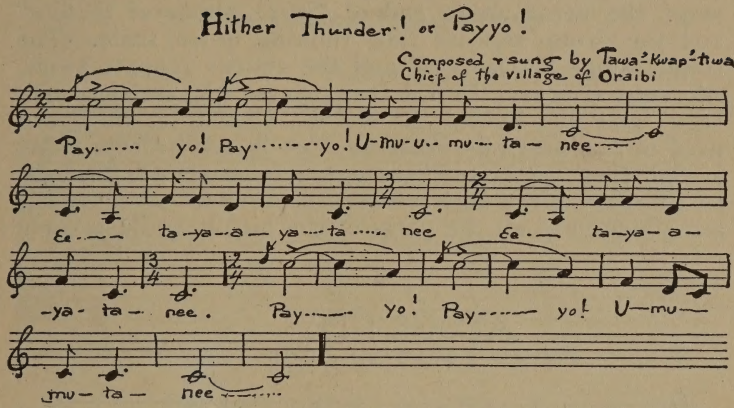
(By permission from Alice C. Fletcher's "Indian Story and Song")

Omaha

With special English words for use in welcoming an honored guest to the Woodcraft Council

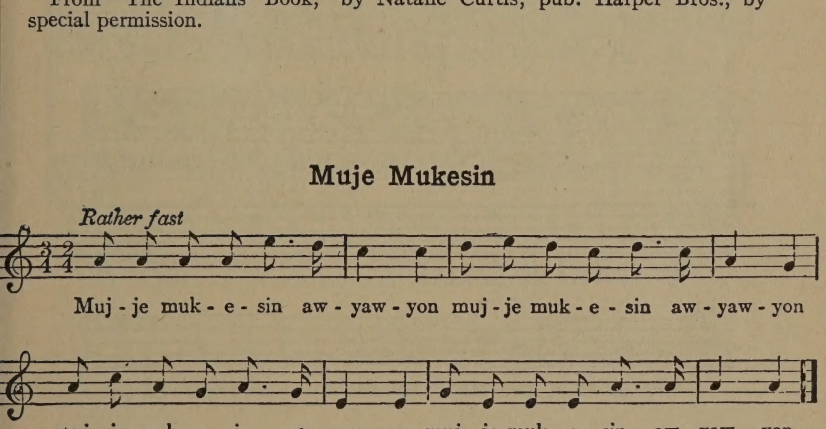
Harmonized by Prof. J. C. FILLMORE

Hither Thunder!



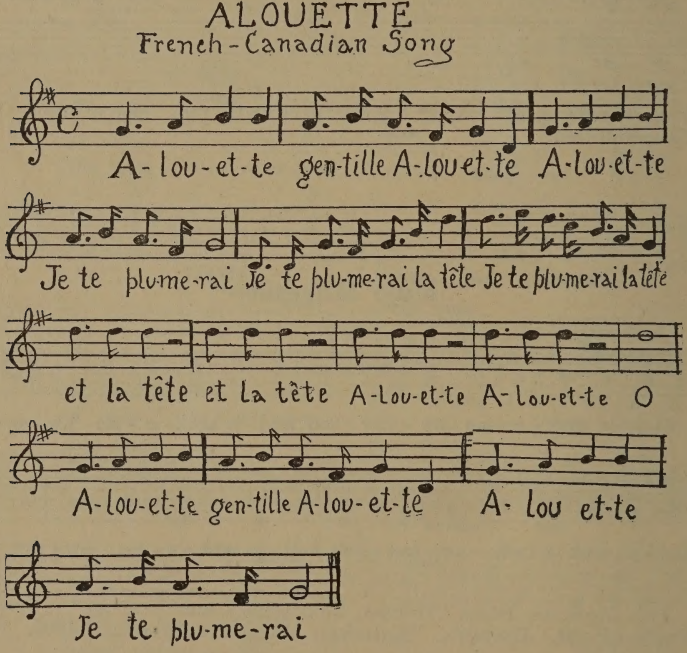
From "The Indians' Book," by Natalie Curtis; pub. Harper Bros., by special permission.

Muje Mukesin



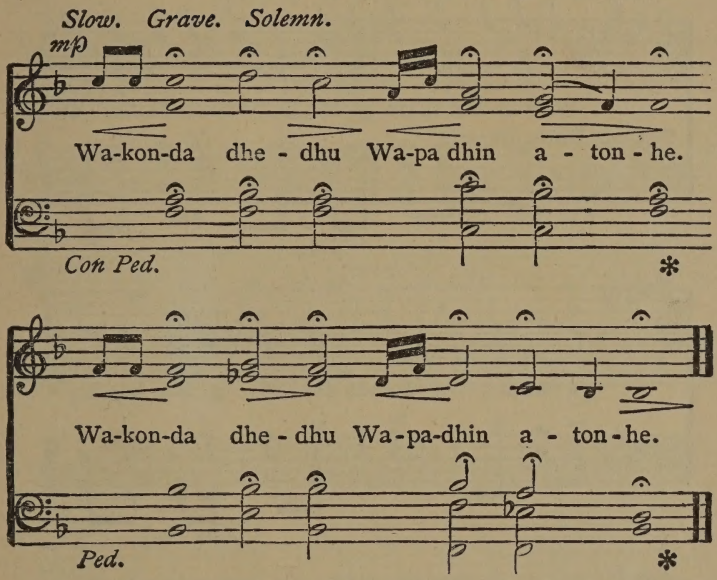
This Moccasin Song, "Hoodoo Moccasins I am Wearing," is from Frederick R. Burton's "American Primitive Music," 1909, by permission.

Alouette is an unusually fine song for group singing. The idea is that of caressing a beautiful bird. A leader sings the verse up to end of "je te plumerai la tete" and the group repeats this, running down scale. The soloist sings "et la tete" and the chorus repeats twice. All sing chorus. In the next verse the soloist uses "cou" and just before the chorus, adds to it the word used in the previous verse as: "et le cou" response by crowd, then "et la tete" response from crowd, then on to chorus. After each verse the previous verse words are added until all the parts of the bird have been used.



The Omaha Tribal Prayer

Harmonized by Prof. J. C. Fillmore.



By permission from Alice C. Fletcher's "Indian Story and Song."

Translation:

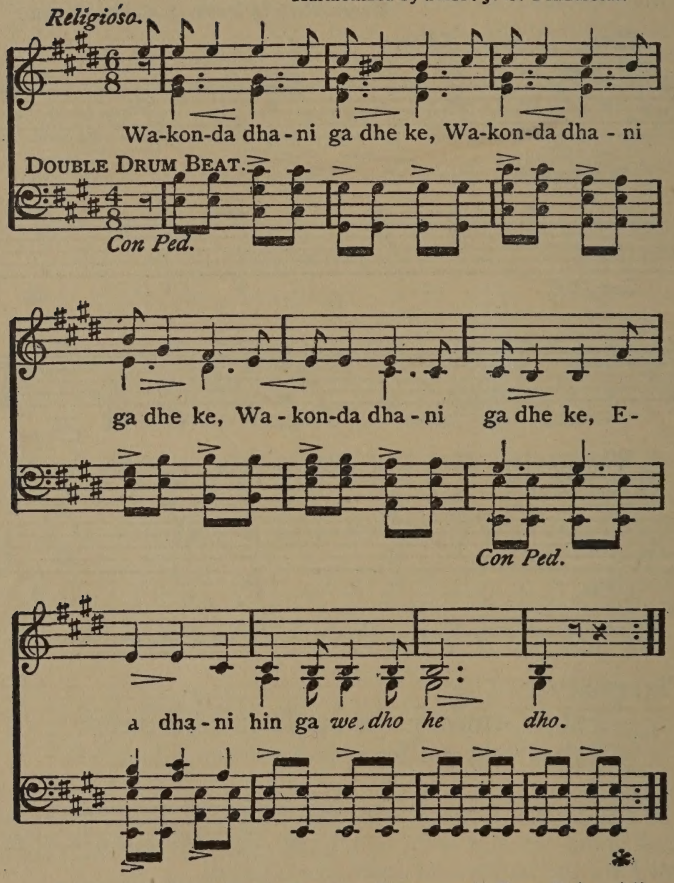
Father a needy one stands before thee;
I that sing am he.

In closing the Council with the Omaha Tribal Prayer, all stand about the fire with hands and faces upraised. At the final bars the hands and faces are lowered.

PRAYER OF THE WARRIORS BEFORE SMOKING THE PIPE.

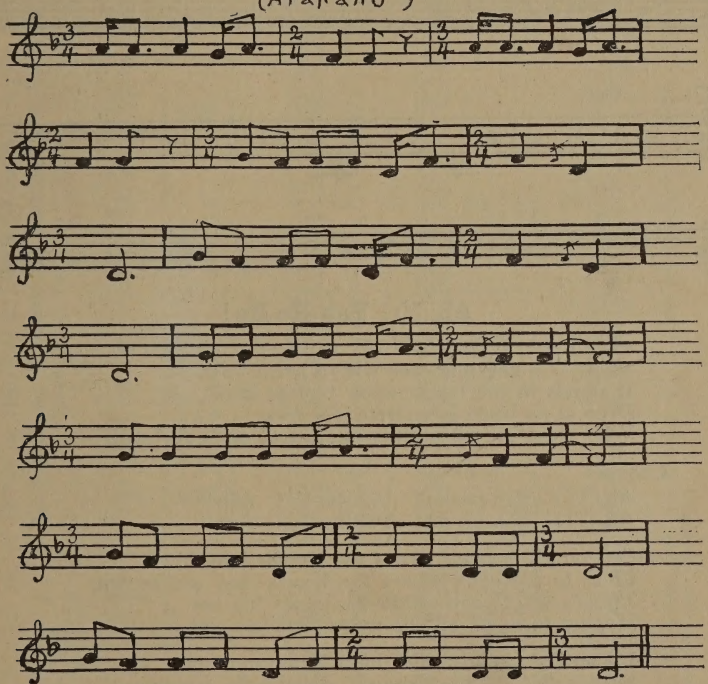
Omaha. He-dhu'-shka.

Harmonized by PROF. J. C. FILLMORE.



By permission, from "Indian Story and Song," by Alice C. Fletcher, Small, Maynard & Co., 1900.

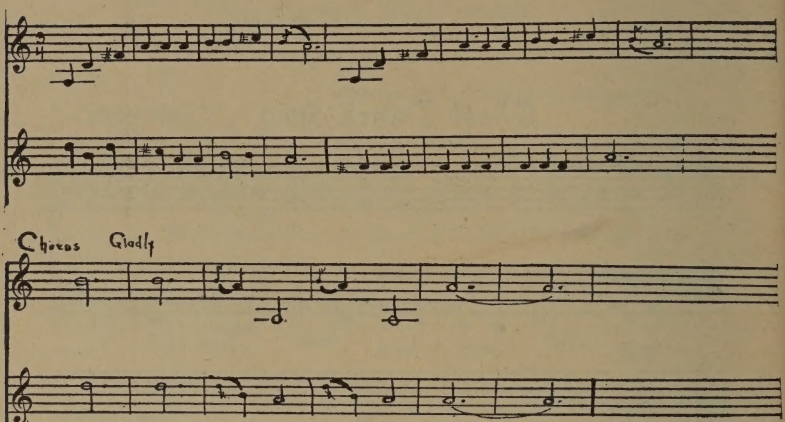
Ghost Dance Song
(Arapaho)



By permission, from Indian Story & Song, by Alice C Fletcher, 1900.

Ah, Yi! Yah-Ho-Ho!

Affectionately Dedicated to an Inspiring Friend, Grace Corning Cotton, by Grace Keir.



Ah, Yi! Yah-Ho-Ho!

By Grace Keir, Aiyahyde Tribe of Brooklyn, N. Y.

There is a chestnut tree with a great hole,
It stands in the forest upon a moss knoll,
Deep in its heart is a sleepy old owl.
Who stays out all night while the coyotes all howl.

Chorus:

Ah, Yi! Yah-ho-ho! Yah-ho-ho! Aih!
Ah, Yi! Yah-ho-ho! Yah-ho-ho! Aih!

Out on the stream where the ripples run down,
Close to the bank where the leaves they are brown,
There's where the caddis-fly hangs his net
Hoping to catch all the mites that get wet.

Up on the topmost cliff, high in the mountain,
Scarce dirt for nourishment, distant the fountain,
There from the millionth seed grows a great pine,
His spirit is bold and his health it is fine.

Look at that black-oak branch with its queer knot,
To know what it is we would give quite a lot,
There's where the gall-fly a cradle has made
And in the middle her baby is laid.

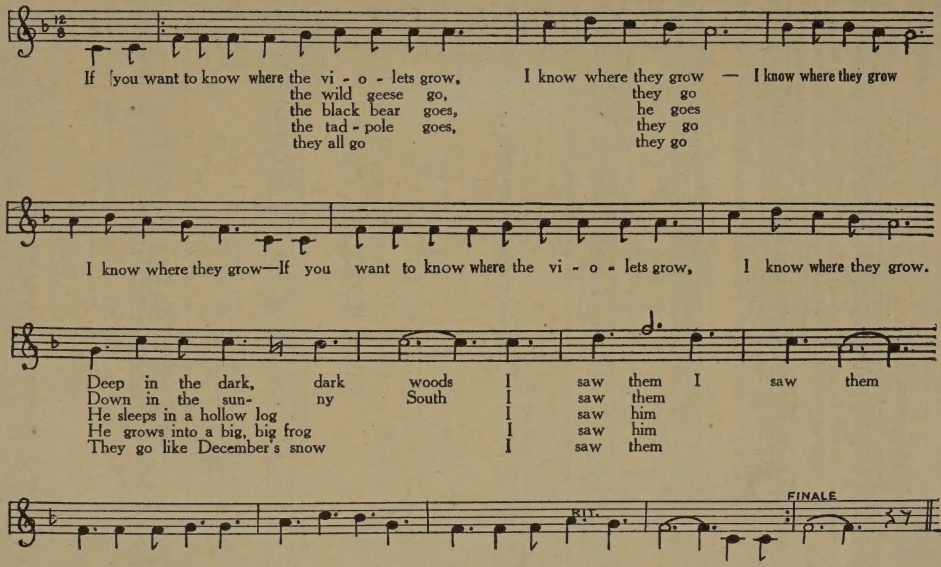
Woods have a carpet of all shades of brown,
The leaves from the past years—they seem to be blown!
But no, if you look quite sharp, there you will see
Six baby partridge chicks watching just me!

Deep in the Dark, Dark Woods

Written for the Woodcraft Annual Meeting
by Clarke G. Dailey

Dedicated to
Philip D. Fagans

OLD AIR

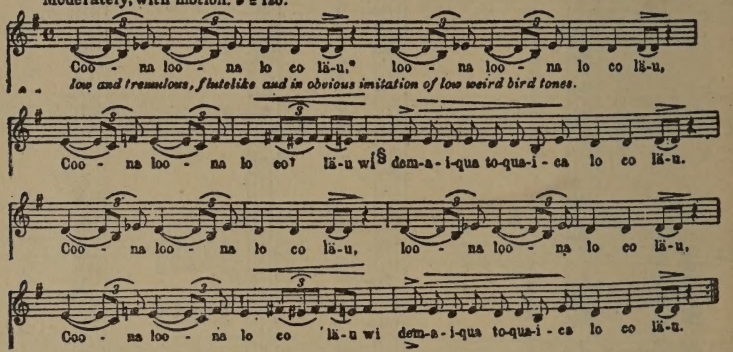


CUNA BIRD DANCE SONG

Cahuilla Tribe

Recorded by CHAS. F. LUMMIS.

Harmonized by ARTHUR FARWELL.



* Syllable division not clearly marked.
† A mere quaver of the voice, not a distinct triplet.
§ I like ee.

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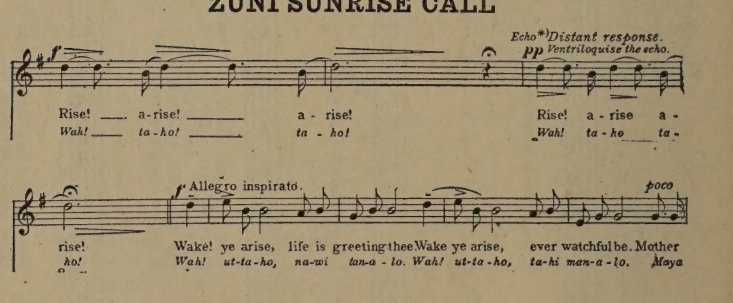
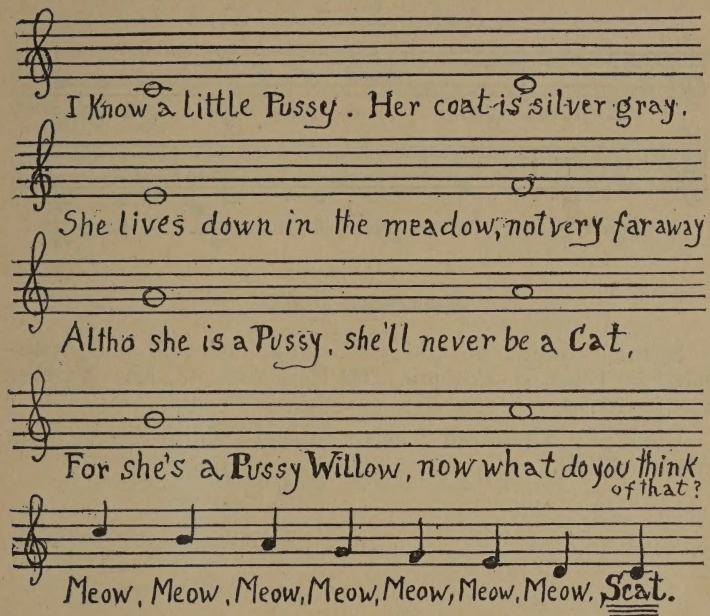
ZUNI SUNRISE CALL



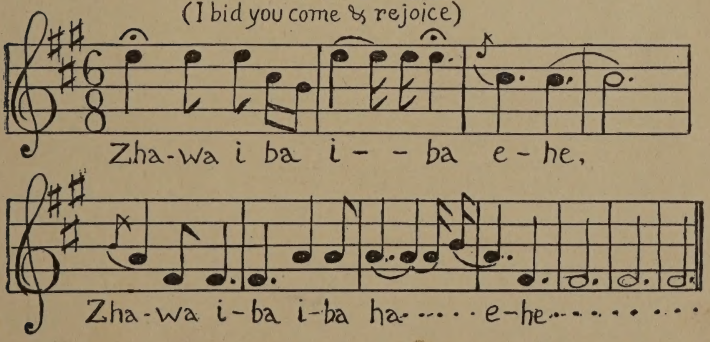
Published by Theodore Presser, Phila., Pa. Recorded and harmonized by Carlos Troyer.

Pussy Willow (a rouser)

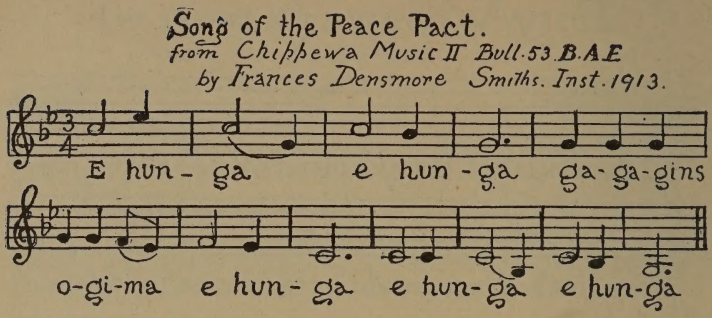


OMAHA CALL

(I bid you come & rejoice)



by permission from Alice C. Fletcher's Indian Games & Dances
pub. C.C. BIRCHARD & Co. 1915.



Reference Books

Spanish Songs of Old California, collected and translated by Chas. F. Lummis, 200 East Ave. 43, Los Angeles, Calif. $1.50.

Book of a Thousand Songs. Mumil Publishing Co., New York. $1.50.

DANCES AND PLAYS

DANCES AND PLAYS

John Ruskin surprised the world some fifty years ago by his eloquent plea for dancing as a mental training. Our educators have slowly accepted the idea and, some twenty years ago, began to seek in Europe for folk-dances that would furnish amusement combined with rhythmic exercise and the chance for dramatic expression.

Many good dances were brought from England, Russia, and Hungary, etc., before we awakened to the fact that in this department the richest of all lands to-day is our own country. There are more and better folk-dances in America than in any other country that we know of.

There are scores of charming Indian folk-dances which the Woodcrafter would like to know, a few of which are given here. They have been tried out many times and approved by leading educators. More than any others at present available, they contain the possibility of graceful movement, exercise, and dramatic expression.

It is unfortunate that the crouch of one certain dance has been accepted by many of the public as the only position in the Indian dances, for it has blinded us to the real beauties of their typical performances.

It is difficult for us to realize how much dancing meant to the Red Men. It figured in all their social and athletic life. The dance was a great public opportunity to either tell in pantomime historical facts or interpret ideas. The vital things of their everyday life, as well as their dramatic adventures, were presented at the Council Ring through the dance. The chase, the things connected with their religion; love and hate, peace and war, were all set forth to music and movement at the Council Fire.

The time most used for these dances is two-time; a heavy and light beat on the tom-tom, with or without the chant that especially belongs to each particular dance.

The fundamental step is the two-step, which consists of a very short step and a short hop on each foot, with a sharp upward action of the knee. This was meant originally to jingle a string of bells or rattles that were worn on each knee.

The one-time and three-time are less frequently used and are more difficult to do.

The arms and body are swayed and freely used to express the dramatic story; always, of course, rhythmically.

The Storm Cloud

One of the best-known native dances is the Storm Cloud, the story of the Rising Wind and the Cloud done into a dance. The first time I saw it was at an Indian village on Lake Huron, when a tall, sturdy Indian did it with a buffalo robe. But it is used widely in the west, and the weight of the robe, which is the cloud, is proportional to the strength of the dancer.

It is done by one dancer using a white drape for the cloud. For a child this should be of canton flannel or muslin about two yards long and a yard wide. For a stronger person a heavier drape, even a white blanket is sometimes used. This dance needs a large circle and should not be attempted in a small room.

It portrays the strong and rising wind playing with a cloud, beginning slowly but ending in a cyclone when the dancer spins and shrieking falls flat, while the cloud settles on his face.

The music is chiefly drum, sometimes only drum.

Trailer means the hands raised high and wide apart holding the cloud so that it floats behind.

The Dip consists in bending low to one side so that one hand points straight up, and one straight down, it is given first on one side then the other, the cloud floating behind.

The Eagle Swoop is given every six beats and it takes three beats to do it. Beginning with the hands raised in the trailer, lower the left hand to near the chest, raise the right straight up but forward, swing both down to left, then by swinging

the right hand round the head and both hands into trailing position the cloud swings clear. After six more beats repeat at other side.

The Flying Scud or Driving Cloud thus, hold one end of the drape in left hand tight against the right shoulder, the other end in the right hand with arm fully extended and level the drape tight between the two hands, then running very fast once around wave the right hand up and down so that the cloud undulates.

The Double Swoop is much like the Eagle Swoop, but the dancer turns face to the right when the left hand swings over, then turns and faces the left as the hands change so that the right is up.

In the Spin the cloud is held tight to the shoulder, as in Flying Scud. Once around is enough for each spin except the final.

In the final, three or four spins will do with grand crescendo, time, etc., then with a scream the dancer drops, jerks the cloud toward his feet, back over his head, then slightly back so it settles over his face and body.

While the drum is sufficient for the dance the effect is better if a low humming chant in correct time is kept up by the drummer. This should increase in volume, and in the climax all should give a high-pitched, prolonged shout while the drum beats a heavy tattoo.

Then all is still.

Sometimes when necessary to shorten it the 5th and 7th figures are left out, but it always begins with the Walking Trailer and ends with the Spin. The exact and full scenario is as follows:

(Each figure goes once around.)

1st. Walking Trailer . . . . . brisk march time
2nd. " " with side dip . " " "
3rd. Running Trailer . . . . . double quick "
4th. " " with side dip . " " "

5th. Eagle Swoop, 6 beats to the trailer pause and 3 beats to the dip.

6th. Flying Scud.

7th. Trailer and Double Eagle Swoop, 6 beats trailer and 3 beats for each swoop.

8th. Flying Scud, with a spin for each of the four Winds.
9th. Double Eagle Swoop without trailer.
10th. Spin in centre, wind screams as the dancer drops flat then dies.

Dead Calm.

The Lone Scout

The Lone Scout is a favorite for a single dancer. The dancer should be in white for the best effect and carry a light fifteen-inch wooden shield on the left arm and a light five-foot spear of wood in the left hand. The making of these is sufficiently shown in the cut.

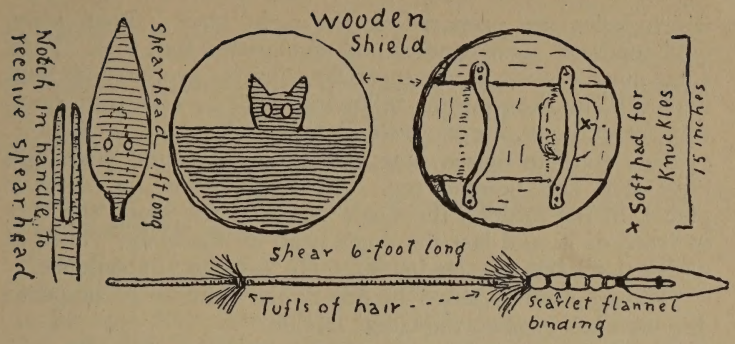
It tells the story of a scout who went forth alone.

First, the drum gives a long roll to notify the audience the scout is coming in, then three thumps for the scout to appear.

He springs into the Ring, holding the spear high in one hand, and the shield in the other. He gives a loud shout then changes the spear to the left hand with the shield. He pats his mouth with the flat right hand to make the war cry; then dances to the two-time (Zon-zi-mon-de or Muje Mukesin will do to accompany the drum) around the ring twice, showing off, as this is supposed to be in the village, swinging the spear and buckler high in the air or clasping them together; making playful passes at the spectators, tossing back his long hair or feathers streaming behind—doing all in graceful gesture to the music. This is Part I, the show off in the village.

Next the dancer goes on the real war path, crouching somewhat now, shading his eyes with his hand on the shield, listening for every sound, peering here and there, and sometimes sticking the spear into things to pick them up for examination. Thus he goes once around to two-time music.

At the beginning of the fourth round, he stops and starts, he has found a trail and by his action must show that he has. He follows an imaginary track all around, picking up leaves and trying the wind or looking for helpful signs. When at length back to the starting point, the next act begins.



Suddenly he descries a lone sentry, unconscious of enemies, and is all tense excitement. Now he crawls up, keeping step to the music which is now in march time, putting in all possible expressions to tell the story, until nearly within throwing distance, he rises, makes a "stodger" or feint with the spear, then another, and at the third or last (rising higher each time) finally is just about to let go when a noise out to one side suddenly attracts his attention. He turns quickly to realize that close at hand is a band of his tribal enemies and that he is in a trap. His expression of triumph changes to fear. He shrinks to the ground and swiftly runs away till at the exit where he turns, and, flinging back a defiant yell, shakes his spear at the foes and is lost to view.

A long drum roll closes the scene.

The Shoshoni Dog Dance

The following are the needed properties:—A low stool or stand, about 1 foot high; a dish or flat tray; something to serve as a dog's head, either a dog's skull, or a wooden head without ears, eyes or nose, but holes where these are to be, and four holes on the crown for feathers (we have used a baker's roll for this); a body sometimes made of wood with four legs, a peg for the neck and a hole for the tail (we have used for this a loaf of bread on four clothes pegs), a more or less hairy tail, 2 wads of black cotton or wool for eyes, 1 wad of black cotton for nose, 2 ears made of rubber or leather, with a sharp point to stick in the head, and for

which holes are prepared at the right place. Last, some quill feathers, some candies and of course a tom-tom. They enter in procession each dancer carrying his property up high in both hands, keeping the following order :—Tom-tom, stool, tray, head, body, 2 eyes, nose, 2 ears, tail.

They enter to march time, and go once around with high knee step and pointed toe. All stand while the stool is placed in the middle, the dog's body on the stool, the tray in front of it, and last the dog's head on the body. Then at a signal all but the leader sit. He says to the onlookers:

"We are here to dance the dog dance in honor of our dear dog who has crossed the Great Divide."

The one with the eyes comes forward, kneels before the head, and addresses it thus:

"Dear dog, when you were with us in the teepee, you were our faithful watchman, no foe could get near us without your sharp eyes discovering them. How I wish I could give you back those eyes (puts the black wads in the sockets and some sweets on the tray), and I will dance and feast in your honor tonight."

Then bent forward slightly with hands like paws, or one held behind for a tail, he dances around to the tom-tom music, while all the rest keep up the yapping chorus, till he again reaches his place, then with face straight up, he howls a long dog howl, turns three times around, and sits down.

Then the nose-bearer comes forward, and says:

"Dear dog, whenever we went a-hunting, it was your sharp nose that followed the game, and made the chase a success. How I wish I could give you back that nose (puts in the black wad, and some sweets on the tray), and I will dance and feast in your honor tonight."

He dances like the first, but varies it in detail.

Then in like manner the ear-bearer praises the ears that heard the approach of every danger during the night, and puts the ears in with similar performance.

Then the tail bearer says:

"Dear old dog, when you were with us, you were our playmate. You never were cross with us. You always met us with a joyful wag of your tail. How I wish I could give you back that dear tail (sticks in the tail, and adds candies to the tray), and I will dance and sing in your honor tonight." Dances as before.

Each of the others recalls some good thing the dog did; he found the papoose lost in the woods, or he killed the rattler that came in the lodge, he cleaned up the scraps so the camp was not bothered with flies, he warned of approaching enemies, he rescued the child from drowning, etc., etc., as much as may be needed. And adds "I stick a feather in your crown and dance and feast in your honor tonight."

Then the leader takes it up. Kneeling before the reconstructed dog, he says:

"Yes, dog, you did all of this, you warned us of the enemy coming, you made the hunting a success, you saved the papoose from drowning, you kept us from a plague of flies, and first, last and all the time you were our true and trusty friend, and all you asked in return was a bite to eat, and a place to lie down on. And when at last we have crossed the Great Divide, we hope we shall there find awaiting us our old friend the dog, so we can live our lives together again in that Happy Hunting Ground, where the white man, the smallpox and the mosquito are unknown. Dog we feast in your honor." He makes a flat handed salaam to the dog, at the same time utters a long howl.

Now the tray is handed around, each dancer gets a share. Before eating, all together, say:

"Dog, in your honor."

Then all bow forward as they sit, and with both hands held out at full arm's length towards the dog, the left hand holding the candies, the right flat and palm forward, they utter a long howl, at the same time sweeping the right hand down and to the right in a profound salaam.

After eating the candies they repeat this salaam with both hands, and a long howl, then the leader takes the stand, etc., and the dog without dismounting it, and all silently go around with the high step and out.

The Legger Snake and the Googly Frog

The Legger Snake is composed of a score of small boys of graded sizes in close formation, each grasping the belt before him. The first is small, the second the biggest, after which

they get smaller to the tail. The head boy is better with a mask like a Snake, the tail boy with a rattle of gourds or boxes with pebbles tied to his tail. When the Snake's head is to be raised, the second boy lifts the first astride his neck.

The Googly Frog is a very big, fat boy. His face is painted with two huge goggle eyes, and an enormous mouth around under his ears. He hops on all fours.

Setting. Across the stage at 7 or 8 foot intervals lay 3 logs (or more) or benches, each about 2 feet high. Alternate them with bars about 3 feet clear above ground. In foreground have some slight hiding place for the Frog.

When the Snake evolutes he goes in and out among the logs and bars, then over and under the long way, also skinning the snake, and doing any other manoeuvers that may prove effective.

Enter Frog with a bombastic manner and thus addresses the spectators:

"I'm the Googly Bull-frog,
The biggest of the Band.
There is no living thing I fear
Upon the sea or land."
I don't know *how to be afraid*
I ————

(The Snake appears in the distance, the Frog wilts, changes tone, and cries:

"Oh dear, the Legger Snake!
Oh! Oh! Oh! Hide me—save me!"

(He hides in the brushwood in front to one side.)
(Enter Snake. Raising his head he says:

"I'm the hungry Legger Snake—
So hungry that I'm mad
For when I do get hungry
I get it awful bad.
I have so many stomachs
There's no food I despise.
But the choicest morsel I know
Is a Frog with googly eyes.

(The Frog groans and shivers.)

So now to help my hunter luck
And win a better chance
I stop before I hunting go
And dance the Hunger Dance."

(Here the Snake does all kinds of evolutions while the Frog looks on in terror.)

"Now off I go a-hunting
Across the grassy bog;
I'll take most anything that comes
But want a Googly Frog."

(Then with head erect the Snake moves and peers cautiously around. After once or twice around he spies the trembling Frog, and giving a great hiss, springs at him. He hops out screeching. The Snake pursues him, then after one or two rounds, seizes and rapidly coils around him. The Frog's cries cease. The rattle tail goes up and shakes vigorously. The Snake slowly uncoils and now the Frog has become simply a big link in the middle of the Snake.)

(The Snake head rises up and says:)

"And now my hunger's over
I'm sleepy as a log.
I'm feeling quite contented
'Cause I got that Googly Frog.

In vain he tried to dodge me,
To stop me, or escape.
I downed him whole, and he's the lump
You notice in my shape."

(Snake breaks up, and all run to their seats.)

Hiawatha's Departure

SCENE: Enter a procession of a dozen or more braves, led by the Medicine Man, behind him one with tom-tom beats slow march. In middle of procession Hiawatha—they circle the fire. The Medicine Man gives the signal to sit.

MEDICINE MAN: Rising—"My brothers, we are assembled to hear tidings of great sorrow. To all men soon or late

there comes the call of Pauguk, the voice that bids them journey to the Spirit Land. Happy that man to whom death cometh when his fame is at its height,—when most truly the people shall mourn for him.

"My brothers, our beloved Chieftain Hiawatha hath heard the dread summons; even now must he sing his death song, and bid us all farewell forever." (Stage business, murmurs among the braves.)

HIAWATHA: Rising, steps forward, says: "My work is done; I have made you a united nation; I have taught you how to live. Now I go, and in going let me show you how to die." Walks to exit and sings to them:

"Mourn ye not o'er my departure
Mourn ye not, I go upon a journey;
I, Hiawatha, soon will have departed.
Mourn ye not: My journey is eternal.
I, Hiawatha, soon will have gone forever."

then backs away with one hand uplifted, folds his arms, raises his face to gaze over their heads. All rise, kneel and sing:

"Fare thee well, then Hiawatha;
Fare thee well, O, fare thee well forever,
Sinks the Sun, our prophet goeth onward,
Fare thee well, may stars shine on thy journey;
Oh, Hiawatha, through shadows everlasting."

Hiawatha now is supposed to be in the canoe (all the better if real); as it moves away he sings again the song as above.

As his song dies away those left behind kneel and with outstretched hands sing again. At last from the far distance Hiawatha is heard singing as before: the song fades away, all bow down covering their heads with their blankets for a minute, then still covered and with heads low, they file out.

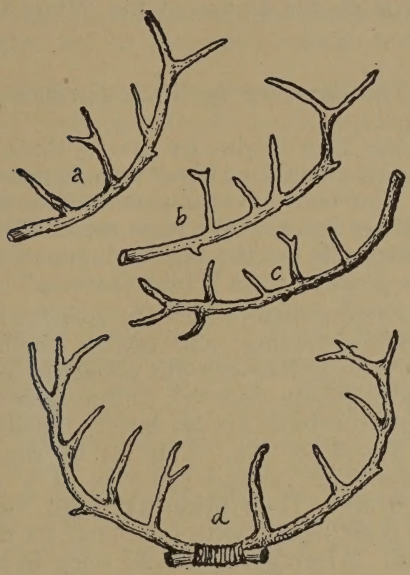
(Indian Music and words of song by permission of Fred R. Burton.) For the music, see page 64.

The Caribou Dance

The easiest of our campfire dances to learn, and the best for quick presentation, is the Caribou Dance. It has been put on for public performance after twenty minutes' rehearsing, by those who never saw it before; and it

does equally well for indoor gymnasium or for campfire in the woods.

In the way of fixings for this, you need four pairs of horns. Real deer horns may be used, but they are scarce and heavy. It is better to go out where you can get a



few crooked limbs of oak, cedar, hickory or apple tree; and cut eight pair, as near like a,b,c, in the cut as possible, each about two feet long and one inch thick at the butt. Peel these; point the square ends of the branches, then lash them in pairs, thus (d). A pair, of course, is needed for each caribou. They are held in the hand and above the head, or in the hand resting on the head.

The four caribou are best in white. Three or four hunters are needed. They should have bows but no arrows. The Medicine Man should have a drum and be able to sing the Muje Mukesin, as given, or other Indian dance tune. One or two persons who can howl like wolves should be sent off to one side, and another who can yell like a lynx or panther on the other side, well away from the ring. Otherwise the Medicine Man or leader can do the imitations.

This is sometimes presented as part of a play. For this we have first a village scene, with evidences of starvation. The hunters go forth but come back empty-handed. Then the medicine bow of the old chief is given to his son, who stops and says: "I cannot be sure of success unless you do the Dance of the White Caribou."

The Dance of the White Caribou

The Medicine Man begins by giving three thumps on his drum to call attention; then says in a loud, singing voice: "The Caribou have not come on our hunting grounds for three snows. We need meat. Thus only can we bring them back, by the big medicine of the Caribou Dance, by the power of the White Caribou."

He rolls his drum, then in turn faces each of the Winds, beckoning, remonstrating, and calling them by name: Kitchinodin (West); Keeway-din (North); Wabaninodin (East); Shawani-nodin (South). Calling last to the quarter whence the caribou are to come, finishing the call with a long Ko—Kee—Na. Then as he thumps a slow single beat the four caribou come in at a stately pace timed to the drum. Their heads are high, and they hold the horns on their heads, with one hand, as they proudly march around. After going round once in a sun circle (same way as the sun), they go each to a corner. The drum stops; all four approach to salute the Great Mystery in the middle, the fire. They bow to it together, heads low, tails high, uttering a long bellow.

Then they circle once, close to the fire; stop on opposite sides of it, backing outward, each to a corner or compass point; and then turning quickly, face outward, bow or honor that wind with a short bellow.

Now the Medicine Man begins any good dance song and beats double time. The caribou dance around once in a circle. The music stops. The first and second, and third and fourth, close in combat. They lower their heads, lock horns held safely away from the head, snort, kick up the dust, and dance around each other two or three times.

The music begins again, and they circle once.

The music stops. Now the first and fourth and second and third lock horns and fight.

After a round or so the music begins again and they circle, dancing as before.

Now the howling of wolves is heard in the distance, from the fellows already posted.

The caribou rush toward that side and face it in a row, threatening, with horns low, as they snort, stamp, and kick up the dust.

The wolf-howling ceases. The caribou are victorious. They turn away and circle once to the music, holding their heads high.

The wolf-howling, panther-yelling (or other menacing sound) is now heard in the other direction.

Again the caribou line up and defy it. When it ceases, they dance proudly around, heads up, chests out as they step, for they have conquered every foe.

But a band of hunters appears, crawling flat on their breasts and carrying bows. They crawl half around the ring, each telling those behind by signs, "Here they are; we have found them," "Four big fellows," "Come on," etc. When they come opposite the caribou, the first hunter lets off a short "yelp." The caribou spring to the opposite side of the ring, and then line up to defy this new noise; but do not understand it, so gaze in fear. The hunters draw their bows together, and make as though each let fly an arrow, then slap their hands to make a loud "crack." The first caribou drops, the others turn in fear and run around about half of the ring, heads low, and not dancing; then they dash for the timber. The hunters run forward with yells. The leader holds up the horns. All dance and yell around the fallen caribou and then drag it off the scene.

The Medicine Man says: "Behold, it never fails; the Caribou dance brings the Caribou. It is great medicine. Now there is meat in the lodge."

The Animal Dance of Nana-bo-jou

For this we need a Nana-bo-jou; that is, a grown-up who can drum and sing. He has a drum and drumstick, and a straw or paper club; also two goblins, these are good-sized boys or girls wearing ugly masks, or at least black hoods with two eye holes, made as hideous as possible; and any number of children, from three or four up, for animals. If each has the attributes of some bird or beast, so much the better.

First, Nana-bo-jou is seen chasing the children around the outside of the circle, trying to catch one to eat; but failing, thinks he'll try a trick and he says, "Stop, stop, my brothers. Why should we quarrel? Come, let's hold a council together and I will teach you a new dance."

The animals whisper together and the coyote comes forward, barks, then says:

"Nana-bo-jou, I am the Coyote. The animals say that they will come to council if you will really make peace and play no tricks.

"Tricks!" says Nana-bo-jou "I only want to teach you the new songs from the South."

Then all the animals troop in and sit in a circle. Nana-bo-jou takes his drum and begins to sing,

"New songs from the South, my brothers,
Dance to the new songs."

Turning to one, he says: "Who are you and what can you dance?"

The answer is, "I am the Beaver (or whatever it is) and I can dance the Beaver Dance."

"Good! Come and show me how."

So the Beaver dances to the music, slapping the back of his flat right hand, up and under his left hand for a tail, holding up a stick in both paws to gnaw it, and lumbering along in time to the music at the same time imitating the beaver's waddle.

Nana-bo-jou shouts: "Fine! That is the best Beaver Dance I ever saw. You are wonderful; all you need to be perfect is wings. Wouldn't you like to have wings so you could fly over the tree-tops like the eagle?"

"Yes," says the Beaver.

"I can make strong medicine and give you wings, if all the animals will help me," says Nana-bo-jou. "Will you?"

"Yes," they all cry.

"Then all close your eyes tight and cover them with your paws. Don't look until I tell you. Beaver, close your eyes and dance very fast and I will make magic to give you wings."

All close and cover their eyes. Nana-bo-jou sings very loudly and, rushing on the Beaver, hits him on the head with the straw club. The Beaver falls dead. The two goblins run in from one side and drag off the body.

Then Nana-bo-jou shouts: "Look, look, now. See how he

flies away! See, there goes the Beaver over the tree-tops." All look as he points and seem to see the Beaver going.

Different animals and birds are brought out to dance their dances and are killed as before. Then the Crow comes out, hopping, flopping, cawing. Nana-bo-jou looks at him and says: "You are too thin. You are no good. You don't need any more wings," and so sends him to sit down.

Then the Coyote comes out to do the Coyote Dance, imitating Coyote, etc.; but he is very suspicious and, in answer to the questions, says, "No; I don't want wings. The Great Spirit gave me good legs, so I am satisfied"; then goes back to his seat.

Next the Deer, the Sheep, etc., come out and are killed; while all the rest are persuaded that the victims flew away. But the Coyote and the Loon have their doubts. They danced in their turns, but said they didn't want any change. They are satisfied as the Great Spirit made them. They are very slow about hiding their eyes. At last, they peek and realize that it is all a trap and the Loon shouts: "Nana-bo-jou is killing us! It is all a trick! Fly for your lives!"

As they all run away, Nana-bo-jou pursues the Loon, hitting him behind with the club, which is the reason that the Loon has no tail and has been lame behind ever since.

The Loon shouts the Loon battle-cry, a high-pitched quavering *lul-l-l-o-o-o* and faces Nana-bo-jou; the animals rally around the Loon and the Coyote to attack the magician. All point their fingers at him shouting "Wakankan Seecha" (or Black Magic). He falls dead in the circle. They bury him with branches, leaves, or a blanket, and all the animals do their dances around him.

Before beginning the story of the dance should be told to the audience.

The Hopi Corn Dances

The first of these attractive dances symbolizes the planting of corn and the second its gathering, husking and shelling. Each dance is complete in itself, but they are often given in sequence.

The dancers should be in ceremonial costume, or all in white, and any number from 4 to 12 or more can take part,

according to the size of the Council Ring. Eight is perhaps best.

The "*grain of corn*" and the "*ear of corn*" are imaginary.

The "*Sun and shimmer sign*" indicates the sunshine pouring down by holding up high the outside hand, usually the right, with fore-finger and thumb forming an "O," at the same time moving the other hand with the fingers straight and a little spread to and fro in a direct line from the "O" to the earth, gentle waving or quivering the fingers of the second hand to symbolize the shimmering beam of sunlight.

The "*rain sign*" is made by holding up both hands high in front, palms down, and allowing the fingers to slightly spread out, hanging down, and in time with the music the fingers are raised and quickly and sharply dropped again, as if sprinkling water from the tips.

The *hop-step* is the principal step in these Indian dances. It is a step and a hop on each foot, that is two beats. The hop is very slight. Sometimes only the heel is raised and the knee action is emphatic to jingle the bells or rattles that are often used attached to the knee, much as Morris Dances.

The *side-step* is done very slowly, the right foot taking a long sidewise step on the heavy beat of the drum, and then the left foot slides slowly up to the right foot on the light beat of the drum; then repeat. Note the ankles are never crossed.

In the *Corn Dance* when the dancers sit down they must all sit at the same moment and in the same fashion, the same foot must be in front and the same hand used to support each in rising. A good plan is to have the right foot over the left and use the left hand as support in getting up. The dancers go the opposite way of the sun, or to the right. They form a complete circle with equal distance between each. The one who comes in first is the leader. This one always goes out first, and, in fact, directs the dance, although it is done in unison. The leader should be the best dancer and should also be tall and well costumed.

The usual accompaniment needed is the regular beat in double-time of a drum.

The "*wind murmur*" is a continuous soft sound made by prolonging the "oo" of "whoo" in unison and softly, rising and falling a little in intensity.

The *Indian whoop* is made by singing the sound of "Oh" and at the same time rapidly tapping the lips with flat right-hand finger tips.

The "fire" means the centre.

The Spring Dance or the Planting of the Corn

1. Walk in, one behind the other, raising knee high at each step, holding corn in both palms, at face level. Continue round the fire until equal distances apart.

2. Put corn into right palm, raise left hand, palm forward, and sing Omaha Call. (See p. 75.)

3. Down on right knee (4 counts), dig hole with right forefinger (3 counts), put grain of corn into hole (1 count). Cover with 2 movements, and pat (4 counts), rise (4 counts).

4. Side step to left, shading eyes with hands, till each is in position at opposite side of circle from starting point (8 counts).

5. Four steps in toward fire (4 counts).

6. Spread hands over fire (4 counts), rub it into body (4 counts), spread hands over fire (4 counts), rub it in (4 counts).

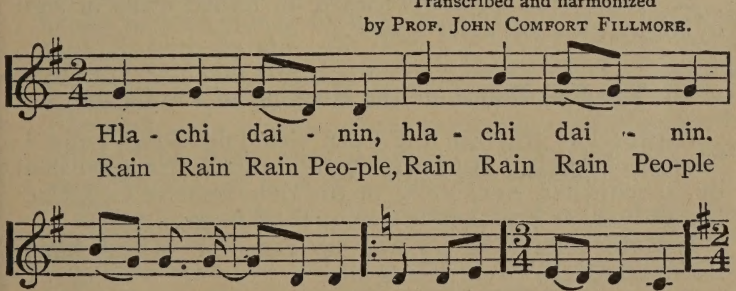
7. Back out in 4 steps (4 counts).

8. Rain song, with rain sign.

Rain Song

Tigua.

Transcribed and harmonized
by Prof. John Comfort Fillmore.



[By permission from "Indian Story and Song," by Alice C. Fletcher.

9. Hop step, making shimmer sign, 1½ times round the ring, bringing each back to original position.

10. Kneel (4 counts), left hand on left knee, put back of right hand on the ground with fingers closed except index, which points up, raise it in 4 jerks to 4 counts, to make the corn grow knee-high. Do this to first 4 measures of *Song of the Peace Pact.* (See p. 76.) Wave hands for next 4 measures. Stand to last 4 measures.

11. Same as 5.

12. Same as 6.

13. Same as 7.

14. Same as 8.

15. Same as 9, going once round fire.

16. Kneel (4 counts), left hand extended a little to lower left side, make corn grow to waist level. *Song of Peace Pact* as before.

17. Repeat 5, 6, 7, 8, 9.

18. Bend body a little forward at waist (4 counts), make corn grow to head level (4 counts), *Song of Peace Pact* as before.

19. Repeat 5, 6, 7, 8, 9.

20. The hands high, waving corn, sway forward, backward, left and right, forward, backward, left and right, giving 2 counts to each, uttering Wind Murmur.

21. Four sidesteps to left, turn to left, war whoop with right hand, holding left as if warding off enemy. Do this 4 times.

22. With head bent downward on folded arms in sign of Night, glide off after leader.

The Fall Dance, or the Husking of the Corn

(Note: For this use the Corn Grinding Song, page 1, "Songs of Ancient America," by Natalie Curtis, published by G. Schirmer, New York, or the Zuni Sunrise Call, Carlos Troyer, at the same place, price 50 cents.)

1. Enter marching holding up corn-cob in one hand. Form complete circle facing fire.

2. Stop, raise both hands, and sing the *Omaha Call.* (See p. 75.)

3. Hop-step around twice, corn in hand.

4. Face fire—four steps in, four steps around self to right, and four steps back. (Indian whoop.)

5. Backs to fire repeat No. 4. After Indian whoop face fire.

6. Odd numbers dance four steps to fire, holding up corn. Bend, offering corn to fire in four beats—four steps back.

7. Even numbers repeat No. 6.

8. Sit, husking corn to singing of *Chek ah bay tebik* (p. 63), (Bark Canoe) then shelling corn to same song. They throw husks into fire and rise.

9. Hold up corn in hands and sing *Zuni Sunrise Call* (p. 65). Go once around in march step and march out.

Snake Dance

The properties are a flat basket tray about 18 inches across, a round bottomed basket about a foot across the mouth and 10 to 14 inches high, on the bottom outer side of which is a loop of string, cord or leather to lift it by, and an eagle feather.

The dancer should be bare-armed and bare-legged below the knee. Any simple skirt with snaky suggestion is good. The hair may be plaited or loose, but should have a head-band in which the eagle feather sticks up behind.

A skillful tomtommer announces the dance and dictates each change. With a roll of the tomtom, he warns the audience, then beats lively march time to which the snake dancer enters briskly, holding the tray up head-high in both hands. On it is the snake basket upside down. She stops opposite the Council Rock, frees her right hand, that is, holds tray and basket up on the left, and with right makes a low, sweeping salutation to the Chief. She walks around the circle once with high knee step, holding the basket as when she entered.

When back opposite the Council Rock, she stops, taps the basket with right forefinger, makes gesture of listening, then nods and smiles, pointing to the basket, implying that she has started the snake a-rattling.

Now, holding the snake tray and basket in both hands at arms' length, she does a glide to waltz time, the tomtommer marking the rhythm and chanting an air.

She swings the basket high, low, round and round, as she makes the circle of the Council Ring. In some cases, she goes round twice.

She stops opposite the Council Rock, frees her right hand, points gleefully at the basket, and by grinning, nodding, listening and pointing, lets the audience know that the snake is mad and rattling loudly.

She sets the basket down squarely opposite the Council Rock, and, again to waltz time, glides round the circle once. Then by hovering round the basket three times in a small circle, sweeping her hands over it and making hypnotic passes, she draws out the spirit of the snake. Rubbing her hands over her body, she fills herself with the spirit of the snake.

Now she assumes a snaky pose, one hand held level with the head and pointing forward, palm down, the thumb opening and closing to simulate the jaw of the snake; the other hand held low and behind, pointing backward, palm up, and waving, for the snake's tail. In this position, she glides round once, very snaky.

This is the spirit dance of the snake in her and must be made as snaky as possible, with frequent looks and gestures toward the basket in which the rattler still buzzes.

She shows by face and gesture the fascination of the snake, and on one knee before the basket, she intensifies her kinship with the snake, making many mesmeric passes over and around the basket. Then taking the eagle feather from her hair in right hand, and grasping the lifting loop of the basket in the left, after a few more vigorous passes with the feather, she springs back as the imaginary snake is exposed.

The snake apparently strikes at her and tries to escape. She drops the basket, and using the feather, manipulates the snake from all sides back into the tray. With many circular passes, she calms him till he coils there. Then she tickles his throat with the feather. He raises his head higher and higher, till in a flash she grasps his neck in her left hand.

She lays the feather down under one side of the tray, puts her right hand, palm up, under the snake, and then with her two hands a yard apart, raises him high in the air, claiming her first applause, with the help of the tomtom.

Now, with cautious and strained expression, she coils the tail around her neck, holding it there with her right

hand, and holding out the head at arm's length with the left. With bared teeth and unsmiling face, and head held back, she now does the snake waltz around once, thrusting the snake's head up into the faces of the spectators.

Having completed the circle with the snake on her throat, she pauses opposite the Council Rock, slowly uncoils the snake from her throat, and recoils it like a turban on her head. Cautiously removing her hands a little, with head back and tense expression on her face, she balances the snake and waltzes around once.

Opposite the Council Rock, she slowly lays both hands again upon the snake, lowers her head down to the basket, recovers the feather with right hand, and slides the snake off. She bounds back as it strikes at her. Using the feather vigorously, she calms the snake down on the tray, and with the left hand, drops the basket over it. She replaces the feather in her hair, holds up the basket and tray in triumph for a moment in both hands; then releases her right to bow and claim her applause. Then holding the tray high in both hands, she marches briskly with high knee step around and out.

The Courtship of the Eagles

A comedy dance

(This is not the Eagle Dance of the Zuni.)

The dancers (two) are supposed to be made up as eagles, but usually the only regalia is a blanket folded in triangular shape pinned on the back and along each arm, to be like wings when the arms are raised.

Two strong boxes (the mountains) are used for perches. One should be big enough for two to stand on it.

The scene opens with the he-eagle standing alone on his mountain, waving his wings and uttering a long, lonesome "Kek Kek Kek." He looks this way and that, sails around the mountain, "Kek Kekking," and comes back to it, looking and listening.

Meanwhile the she-eagle is hiding behind her mountain. She peeks with intense interest, but keeps down.

At last, when the he-one seems to be giving up in despair, she puts up her head and answers "Kek." He comes sailing and loudly Kek Kekking. But she hides and he misses her.

He goes back to his mountain and utters one or two despairing "Keks." She jumps up and utters a loud "Kek Kek." He comes sailing and "Kek Kekking." She sails away. He pursues. They circle round and round, cut figures of 8, loudly "Kek Kekking," but she eludes him, and at last hides behind her mountain. He sails about, sadly "Kek Kekking." She makes no answer. He alights on his mountain. She calls out "Kek." He pays no heed. She sails out, calling "Kek." He turns his back. She "Keks" in vain, then alights on his mountain behind him, calling softly "Kek" in his ear and swishing him with her wing. He turns around, she flees. He pursues. She is easily caught. With their left hands joined, but facing different ways, they spin about in a couple of joyous circles, uttering long, loud "Keks." They alight on his mountain. He folds his wings about her.

Curtain.

Peace Pipe Ceremony

The Chief rises from the Council Rock and calls: "Ho, Cannungpa Yuha, O-hay!" (Oh, Pipe-bearer, bring the Pipe!). Singing of the "Zuni Sunrise Call" (p. 74), is heard far away.

Then enter the Herald, staff in hand. He faces the Chief, and sings the Sunrise Song again, but omitting every other line which is softly sung off-stage as an echo.

Enter in procession 6 or 8 maidens, slowly, silently to tomtom beaten in slow six-part time by the leader or Medicine Man. They walk with eyes on the ground, arms straight down at their sides, flat hands bent out, palms down. They are followed by a very small boy or girl, dressed in white, bearing the Peace Pipe aloft horizontally and held in two hands, palms up.

The Chief stands with folded arms as they file in, and form 3 (or 4) on the Chief's left, 3 (or 4) on his right, the Pipe-bearer near him on his right, the Medicine Man on his left.

The Maidens then sing the "Prayer of the Warriors before Smoking the Pipe" (p. 70), hands held low forward, palms up, then raised high, palms facing in, for the first

line; hands lowered then crossed on breast, for second line; hands forward in beseeching attitude, for third line; raised high, then arms folded, for the fourth line. The head is thrown back until the end of the last line as the arms are folded, when the eyes are cast upon the ground.

The Chief takes the Pipe from the Bearer. The Maidens sit down, cross-legged and cross-armed, in the places where they stood, and the Chief proceeds.

Kneeling at the fire, he lights the Pipe. As soon as it is going, he lifts it grasped in both hands, with the stem toward the sky, saying:

"To Wakonda, the one Great Spirit; that his wisdom be with us. Hay-oon-kee-ya. Noon-way." All answer, in a long intonation, and slightly raising the flat right hand: "Noon-way." (Amen, or this is our prayer.)

Chief: "To Maka Ina, Mother Earth, that she send us food. Hay-oon-kee-ya. Noon-way."

All (as before): "Noon-way."

Chief: "To Weeyo-peeata, the Sunset Wind, that he come not in his strength upon us." (Blows smoke and holds the stem to the West.)

"To Wazi-yata, the Winter Wind, that he harm us not with his cold." (Pipe as before to the North.)

"To Weeyo-hinyan-pata, the Sunrise Wind, that he trouble us not with his rain." (Pipe as before to the East.)

"To Okaga, the Hot Wind, that he strike us not with his fierce heat." (Pipe as before to the South.) "Hay-oon-kee-oon-ee-ya-snee. Noon-way."

All: "Noon-way."

Then the Chief stands, holding the Pipe high level in two hands and proclaims aloud:

"Wakan-tanka Wakan ne-kay-chin, chandee eeya pay-ya-wo. That is, Great Spirit, by this Pipe, the symbol of Peace, Council and Brotherhood, we ask thee to be with us and take part in our Council."

All intone a long "Noon-way."

The maidens stand, the Chief hands the Pipe to the Bearer, who holds it high and marches off, followed by the others, singing the "Zuni Sunset Song" (p. 65). The Herald leaves last of all.

Tree Planting Ceremony

He that cutteth down a tree is destroying a life, and he can find justification only in that the space was needed or the timber necessary. Nevertheless, it was a trespass against the forest and its life, and he should expiate his offense by the planting of two trees. In this way, may he atone for his sin.

He that destroyeth utterly a tree and leaves its space a barren and a blank, is robbing his country of her beauty and her riches.

He that planteth a tree, planteth a well-spring of blessing, —a blessing to the wild things that need its fruit and its shelter, a blessing to those who rejoice in its beauty, a blessing to man when his bodily wants are ministered to by its protection from sun and storm, for the nourishment of its fruit or the service of its timber for the building of homes or for the nurture of the altar fire or the fires of our hearths.

There is no evil in a tree,—only blessing, day and night, for man and for the wild things.

Come, therefore, ye Woodcraft folk, and bear witness that I am trying to do my part in blessing our country with a wealth of trees.

Here with my own hands I dig in the prepared ground and plant the tree. Now I water it and promise that I will repeat this watering every dry day, for at least half a moon, so that the seedling may not perish before its roots are quickened.

Now I sing the *Rain Song* (p. 95).

I make the sun shimmer as I walk around my tree (p. 94).

Now I plant the four stakes of the watch fire.

(Bending low, with "teacher" finger, he says:) Now, little tree, I have given you a good start in life. I will save you from the curse of heavy hoofs and insect blight and drought. I shall rejoice in your growth and hope that some day I shall stand under the sweet restfulness of your shadow.

The Flower Planting Ceremony

Standing at the place selected for the planting, while the others sit in a circle about it, the planter holds the seeds or roots in one hand, a trowel or spade in the other, and says:

"There is nothing more beautiful than flowers. We love them even more than birds because they do not fly away when we come near to enjoy their beauty."

"Flowers give joy in the woods, in the hand, on the table and in the sick room, and because evil forces are at work to rob us of our wild flowers I shall do my share to save them, that those who come after me may find the same pleasure that the flowers have always given me."

(He plants the flower seed.)

"Thus I plant this seed (or root) as I mean to plant many more, in a place that I believe will make it grow. I shall guard and water it when need be and I ask all good wood folk to spare it when it blooms; to take the flower maybe, but leave the plant and the root, for these are not ours but the heritage of our children."

"How I wish you could talk when you come, little unborn bloom, so you could tell me what you need to make you prosper, but you are silent as you are frail and I can but use my wits to help you, for I love you and I set these sticks around to guard you and to mark the place."

(Puts in circle of pegs or stakes.)

"Though you are but an earth-born child, I like to remember the little poem that tells how some of you came from the sky."

(This paragraph and the poem may be omitted.)

The Meadow she was sorry
For her sister Sky, you see,
For, though her robe of blue was bright,
'Twas plain as it could be.

And so she sent a skylark up
To trim the Sky robe right,
With daisies from the Meadow
(You can see them best at night).

And every scrap of blue cut out
To make those daisies set
Come tumbling down upon the grass
And grew a violet.

"Now good-bye, little unborn flower. I leave you, but I shall come again from time to time, and eagerly watch for your coming."

The War Dance Play

Each brave selects a squaw for this. Ten to thirty couples take part. They sit in a large circle alternately brave and squaw. In the center is a block with a scalp on it. Each Squaw has a club by her side.

Squaws begin to sing the *Cuna* song (p. 74), guided by Medicine-woman and drum. At length the song stops.

Squaws begin nudging the braves and pointing to the scalp-block. New music by the Medicine-woman begins (The Moccasin Song). The braves jump up, dance around once with heads high in air almost held backward and not crouching at all. (They carry no clubs yet.)

After going once around, each is back again near his squaw and she holds out to him the war-club and utters the little squaw-yelp. Each brave takes his club and now begins the crouch dance. Going three times around and each time crouching lower while the squaws stand in a circle, arms down tight to side but bodies swaying in time to music. On the fourth round all are crouching very low and moving sideways, facing inwards.

The music suddenly changes and all do the slow sneak toward the center with much pantomime and keeping right foot advanced always. The squaws watch eagerly and silently leaning forward shading their eyes with one hand. All the braves strike the scalp-block together, utter the loud war whoop and stand for a moment with hands and weapons raised high, then in time to the fast drum, dance quickly erect with high steps and high head to the squaws who utter the squaw-yelp for welcome and all sit down as before.

The squaws begin the singing again, repeat the whole scene, but this time the chief falls when the block is struck and is left lying there when the other braves retire.

His squaw stands up and says; "Where is my chief who led you to battle. Why has he not come back to me?"

All look and whisper, the squaws get up to seek. At once they find him and kneeling about him with clasped hands, break forth in the squaw lament for the dead, which is a high pitched quavering wail. The warriors lift him up and slowly carry him off the scene out of sight followed by the squaws who with head bent sing:

(Air "Bark Canoe")

"Our chief our warrior true
Is lost to all, to me and you
Dire fall our vengeance due
On those who slew our warrior true."

Repeat it many times; as they disappear the music dies away fainter and fainter.

The Two Captives

A Comedy

This is the Indian Mutt and Jeff Dance. A very short fat boy and a long lanky boy are best, but any will do if they are natural comedians. The accessories are a couple of short ropes, 6 or 8 straw clubs and 2 shields. The shields are not essential.

The scene opens in the Council Ring with a roll of the drum. The Chief announces: "Our warriors are returning victorious from the warpath. They will soon be here (Applause). Here they come (Loud shouting heard). And to show what the enemy was like, they have brought two captives—two of the most valiant of the enemy. Here they are."

In march the warriors, pushing about two captives whose hands are tied behind and whose heads hang low. The victors give them club-whacks from time to time and hustle them about unmercifully. (Great Applause.)

"Look at them!" shouts the Chief. "Now what shall we do with them? Shall we keep them for slaves, or hand them over to the women, or tie them to trees and shoot them full of arrows? Or shall we have some fun right now by making them fight each other?"

All—"Right now! Let's have some fun! Let's make them fight each other."

Chief—"All right."

Then with a mixture of signs and grunts he explains to the two captives that they must fight each other and the winner is to go home free. "But so one will not get killed too soon and spoil the fun, we'll keep a rope on each and pull them apart if they clinch."

The captives' hands are untied and a rope tied to the belt of each. They are given each a straw club and a shield,

and told to go at it. A warrior hangs on to each rope and another guards the doorway.

Then they begin an *opera bouffe* fight, a great deal of prance and yelling, grimacing, etc., once in a while a whack from a club. When they grapple, they are pulled apart by the ropes.

The fight is carried on to the beating of the tomtom and guttural chant of the crowd. It must be made as grotesque as possible.

After one or two clinches, they are pulled apart. Then the Chief shouts: "They have shown such fine spirit, that we will not have either of them killed, but will adopt them into our tribe as brothers."

"How Kola!" All shake hands and grin. They live happily ever after.

Reference Books

Wild Animal Play, by E. T. Seton. Doubleday, Page & Co.

Indian Games and Dances with Native Songs, by Alice C. Fletcher. C. C. Birchard & Co.

Indian Story and Song from North America, by Alice C. Fletcher. Small, Maynard & Co.

The Indians' Book, by Natalie Curtis. Harper & Bros.

Plays of the Pioneers, Constance D'Arcy Mackay, Harpers, $1.50.

Song of Hiawatha, words by Longfellow, dramatization by Florence Holbrook. Published by Houghton, Mifflin Co. $.15.

Hiawatha's Wedding Feast (Cantata), words by Longfellow, music by S. Coleridge-Taylor. Published by Novello & Co. $.75.

Holiday Plays, Marguerite Merington. Duffield. $1.25.

ON STORY TELLING

The art of story-telling combines the principles of short-story writing and of successful acting. The four elements in the art may be listed as the audience, the setting, the story and the speaker. Let us consider them in order so far as a few simple rules may be of help.

First, of the audience: Be as close physically to the audience as you can. Human voice, expression, personality, magnetism, etc., have their limits of reach, and are strong, of course, in proportion to the closeness of contact.

No man can thrill an audience that is so far off that it barely hears his voice. The story that is gripping when told in a little home circle, may fall flat in a great opera house.

Have your audience as close together as possible as well as near you. Elbow to elbow is best. Every gap seems to rob the spell of power,—seems to unmake the medicine. Always address the back rows. If you are reaching and

moving them, you may be sure that the nearer ones are taken care of.

An audience crowded into a small hall is far easier to win and hold than that same audience scattered over a big hall. They must also be one group. A second group in gallery or standing looking on, is a discordant, hinderful element.

Your audience must be physically comfortable. If the seats are hard and without backs, or if your hearers are seated on the floor, you cannot grip them as easily as when so perfectly seated that they are unconscious of their bodies.

The audience must be protected from extraneous noises and sights. A baby, a dog or a bell or a late arrival, can ruin the best story ever told. I have known the song or sight of a bird even to break the magic of a Council Fire tale.

Atmosphere is as important as it is elusive, and it is conjured up as much by smells as by sights and sounds. Sounds of any kind you do not want. A background of tense silence is the perfect setting for the story teller. It is far easier to create one's atmosphere when environed with a helpful smell, such as that of pine trees, wood smoke or incense, than when one's nostrils are assailed by odors of gasoline, onions or soup.

Nevertheless, this is largely individual; for smell has such a grip on the memory that each one responds to the smell that has most cherished associations for him, without regard to its intrinsic merit. Skunk smell, because of its associations, has always made a pleasant appeal to me.

The suitability of the story to the time and place must always be considered. Certain tales may be perfectly proper in a man's club and all wrong in a boys' camp. A ghost story is likely to fall flat if told in garish daylight, and a comic story, however good, may be absolutely unacceptable in a group of persons assembled for some serious purpose. In other words, timeliness is a large consideration.

The length of a story is important also. Never tell a thirty-minute story when you are down on the program for ten minutes. It is much wiser to stop at nine minutes. Leave them hungry for more.

If a disturbance takes place, ignore it if possible. If not, treat it lightly and pleasantly. Remember that the audience will attach exactly the same importance to it that you do. If you take it as a joke, they will; if you get fussed, they will.

For choice of story, whenever in doubt, go to some of

the old standards, like Grimm, Chaucer or La Fontaine. They are simple, human, interesting, and have stood the test of telling for many generations, which shows them possessed of the vital qualities.

Use poems committed to memory if the desired effect must turn on verbalism; if it turns on the thought, use prose.

Always tell the story in terms of your audience. If you want a crowd of Bowery children to appreciate the goodness of the widow in the parable, do not say: "She, having little withal, nevertheless gave two mites." Tell them that she was behind in her rent, had no coffee for breakfast, and yet gave her last nickel to help a fellow who was up against it.

Every professional story-teller keeps a list of stories in some handy place, entering them only by catch titles. Some keep this list in a little pocket notebook, some keep it on the shirt cuff, some, especially politicians, carry it in the hat, so that they can glance at it without being caught.

The Indian story-teller used a skin on which each story was recalled by some pictograph. Among some peoples, tally sticks are used, and the knotted cords or quipu, of the Peruvians, are said to have served the same purpose.

It is just as hard to make a good story-teller by correspondence as it is to make a good actor. Nevertheless, there are certain basic principles by which all should be guided in story-telling.

The first is, never, never *read* a story to your audience! There is no magnetism, no contact of your personality with theirs during reading. It would be the same thing if an actor were to carry a paper and read his part. The printed page between is an absolute non-conductor. It would be nearly parallel if you recited the story while you were invisible behind a screen. There are readers who read well,—but that is another art, a lower art; they are not story-tellers.

Carefully foster applause and study its reaction. I have seen an unwise story-teller flatten his audience and spoil his "medicine" by suppressing the first attempt at applause. Remember that applause stimulates the audience as well as the speaker. You must deliberately lead up to the moment of applause, make quite clear that it has come by bowing, smiling and leaving a gap. Some speakers deliberately stop and pretend to drink from a glass, so as to give the audience

a chance to clap. But however it is done, the applause must be skillfully nursed, not suppressed. Remember, applause does not necessarily mean hand-clapping. It is manifest approval,—usually by clapping, but perhaps by laughter or smiling or nodding, and may even be silence. Dead silence is the real tribute of deep emotion.

Next, you must be simple, in plot as well as in language. Æsop and Bunyan can be told without change, but James and Thackeray would need a lot of condensing and predigesting.

Personalize and dramatize your story, make it your own as far as possible, by variants, by your own coloration, by impromptu intensification, by acting it.

If you say "The wolf howled," it is not nearly so compelling as if you say "The wolf did this:" then add a howl.

Tell it with your hands, feet, face and whole person. Use gestures whenever helpful,—and that is, most of the time. But only if you can make every gesture mean something. There are times to stand absolutely still.

The great Greek orator said that there were three essentials in reaching an audience. The first was sympathy, and the second was — *sympathy,* but the third —— was SYMPATHY.

Be sure that your climax comes in the last paragraph; if possible, in the last sentence,—even in the last word. It is ruinous to your effect if you provoke applause before you are ready, at a time, indeed, when it smothers the final essential thought.

A rounded, perfect story begins with a thought, around which it plays during the relation, and at the end again proclaims that thought,—yes, with even greater emphasis. This is sticking the serpent's tail in his mouth.

Reference Books

Around an Iroquois Story Fire, by Mabel Powers. Stokes Co.

Stories the Iroquois Tell Their Children, by Mabel Powers. American Book Co.

Legends of Vancouver, by E. Pauline Johnson. Thomson Stationery Co., Vancouver.

Indian Days of the Long Ago, by Edward S. Curtis. World Book Co.

Andersen's Fairy Tales.

Grimm's Fairy Tales.

La Fontaine.

Chaucer.

Shakespeare.

Homer.

THINGS TO KNOW AND DO

CITY WOODCRAFT

The Hunter in Town

Woodcraft in the beginning was the only science of man. It meant masterful touch with the things of his daily life, indoors and outdoors, near or far. So, also, by growth and transference we define Woodcraft in our city to-day as seeing, comprehending, and mastering the ordinary things of our daily life.

The boy or girl who looks both ways before crossing the street, who knows what all the signs on the lamp-post mean, who avoids breathing through the mouth, especially when there is dust flying, who knows the warnings of the different colored lights, who knows the number on the motor car that rushed by so recklessly, who keeps the chest expanded and the toes nearly straight in walking, who can tell a man's track from a woman's or a young man's from that of an old man on the wet pavement, who realizes that the telephone book is the key to the business life of a city, who recognizes and acts on all the hand signals given by the traffic policeman—he is practising good Woodcraft and cultivating something that in the life-game spells "SUCCESS."

There are three separate fields for Woodcraft in the city.

The first is that of the incidental things of wild life that are found in our parks, suburbs, and water front. No less than one hundred forest trees, one hundred wild flowers, sixty different wild birds, twenty different furry four-foots, a dozen turtles, snakes, etc., are found in New York City, while ever the same, overhead, are the stars.

The second field is in the museums and libraries. Every one of our great cities is rich in material of priceless value, gathered here from the wilderness, stuff really relating to Woodcraft. The material is composed not only of collections of birds, animals, trees, etc., but of robes, boats, songs, dances, ceremonies, legends, pictures, carvings, and a myriad of things that stir the loving imagination of the red-blooded, blue-sky boy or girl.

But the last is the largest and most important department, for

it offers the newest field of purely city work. It includes signs, blazes, totems, tracks, sign-language, vermin-fighting, fire prevention, city craft, etc.

A *Blaze* or Indian sign is understood to be a simple mark conveying information without using words or letters and depending on its position for part of its meaning. There are on Broadway at least fifty signs and blazes descended from those used in the wilderness by savages; in some cases the very same mark is used.

A *Totem* is a simple form, usually a natural form used as the symbol of a man, a group of men, an animal, or an idea. It has no reference to words, letters or language, and does not depend on its position for its meaning.

Before men knew how to write they needed marks to indicate ownership. This mark must be simple and legible and was chosen because of something connected with the owner or his family. Later some of the trades adopted a symbol; for instance the barbers in the early days were "blood letters" and were closely associated with the medical profession. Their totem indicated their business, and we have the red-and-white barber pole of to-day. It was among the Indians along the west coast of America that the science and art of totems reached its highest development, though they have a world-wide usage and go back in history to the earliest times.

Out of this use of totems as owner marks and signs grew the whole science of heraldry and national flags.

Thanks to the fusion of many small armies into one or two big armies, that is, of many tribes into a nation, and also to modern weapons which made it possible to kill a man farther off than you could see the totem on his shield, national flags have replaced the armorial devices, and are the principal totems used to-day.

But a new possibility has been discovered in modern times. Totems will serve the ends of commerce, and a great revival of their use is now seen.

The totem is visible such a long way off and is understood by all, whether or not they can read or know our language,

is copyrightable and advertisable, so that most of the great railway companies, etc., now have totems.

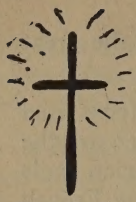
There are not less than one hundred common totems used in our streets to-day. Among the familiar ones seen are the American eagle, with white head and tail, the Austrian eagle with two heads, the British lion, the Irish harp, the French fleur de lis, etc. Among trades the three balls of the pawnbroker, the golden fleece of the drygoods man, the mortar and pestle of the druggist, and others are well known. Examples of these and others are given in the illustration, but any wideawake Woodcrafter will be able to find many others by careful observation. (See pp. 146-148.)

The *old sign language* of the Plains exists among us to the extent that over one hundred of the gesture signs are in daily use among the school children and the folk from Southern Europe. The policeman regulating the traffic uses at least fifteen of these signs daily and hardly realizes it, yet every one understands them and obeys. Here they serve the same purpose as in the wilds; they convey information when it is impossible to be heard and they do it in the universal language of ideas which all can comprehend no matter what his speech may be.

The tracks of different human beings as well as of dogs, cats, rats, mice, horses, sparrows, etc., are seen after every shower, when the gutter is wet and the pavements dry, as well as after a snowstorm; and they all have a story to tell to the eyes of woodcraft wisdom.

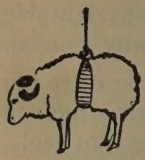
City craft—the knowledge of the things which are particularly a development of the city: how the streets are paved, how the garbage is disposed of, where the city water is obtained and its quality, these and many other things relating to making life in the city produce the best results, are an open field.

All of these and a thousand more are to be found in the city. And the value of city Woodcraft is not merely in the things themselves but in being able to see the things about you. Begin to-day to see, comprehend, and master the ordinary daily things of your life.


Christianity

Mourning

Electric Power


Commercial Success

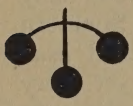
Northern Pacific R. R.

Salt Lake R. R.

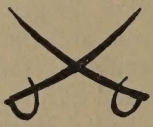
Santa Fé R. R.

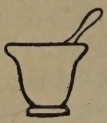
Traffic Squad

Bell Telephone

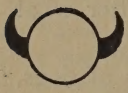

Pawnshop

Liberty


Army

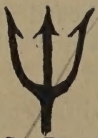

Druggist

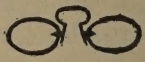
Ireland


Woodcraft

Navy

U. S.


Sea Power


Optician

Union Pacific R. R.

Islamism

Skating

Star Union Lines

New York City

Penna. R. R.

The Power of the People

Canadian Pacific R. R.

Barber

Scotland

Totems Often Seen

The Value of Doing

Our grandmothers gathered, dyed, and prepared material for their own clothes; made their rugs and carpets, their own candles, their own soap, their own medicines. Alone in the wilderness, they were sufficient unto themselves, for they were true Woodcrafters—they mastered the things about them. Conditions have changed and now most of these things have been taken from the home to the factory, so the old home training is no longer in reach.

The big value of all this knowledge was in that it bestowed power. For learning to do gives more power to do, and when you let some one else do a thing for you, you eventually lose the power to do that thing. Through the ability to do have peoples prospered and nations become great.

When the Romans put in the hands of slaves the doing of everything, they thereby lost the power to do, and were defeated by themselves in their national life and then by their enemies in battle. The Vikings sailed their ships fearlessly and far, for they had proved themselves on many seas. In time of stress, each leader took the helm of his own ship; and the proud boast often heard among these world-subduing northern folk was: "I am a noble. My father owns his own forge." Always in the world's history, those who valued the ability to do have been strong and sturdy. The Persians' battle flag in their strongest time was a blacksmith's apron. Emerson recognized the value of doing things well when he said: "If a man can write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he live in the woods, the world will make a beaten path to his doorway."

So the Woodcrafter of today will learn to do, if he would be happy and healthful; for life is made worth while, not by the few great moments, but by the making of the daily life pleasant and full of meaning. The difference in homes is largely in what one knows and can do. One is of value in the office from this standpoint. And the managing of a home so that it is clean, bright, and attractive, is one of the largest jobs. It pays the largest dividends because it brings satisfaction to all, not to mention the financial gain in knowing how to can and preserve, how to make one's own clothes, etc.

Probably nothing is sadder than to go into a home where everything is bought ready prepared; clothing ready made,

food bought in small quantities at a delicatessen shop, amusement had at the movies or at some place where it can be bought. The clothing is commonplace—no brain or pride has gone into the making; the food was bought in a hurry and haphazardly. The amusements are often flat, and mostly superficial.

Oh, Woodcrafter, would you really live? Then begin, not by dreaming of some new field to enter or new worlds to conquer, but by knowing and using all the things about you. Know the pleasure of workmanship, the happiness which comes from closer touch with the fundamental things of life and the consciousness of being of value to the world.

Fire—Servant or Master?

FIRE IS A GREAT SERVANT BUT A TERRIBLE MASTER

Fire Prevention

Condensed from Fire Commissioner Robert Adamson's Pamphlet

Why should America suffer five times as much fire loss per head as any European country? Chiefly because we are so careless.

Just think that every year about 2,000 lives are lost in fires, and 6,000 persons injured. The money loss to this country is about $500,000,000, which means that every family of five persons is paying $12.50 a year as their share of this loss—$2.50 apiece. In Europe the people are so careful about fires that fire loss is only about fifty cents apiece. Taking no account of the suffering and misery, our cash fire loss in America is $600,000 a day, $25,000 an hour, $416 a minute. In other words, we lose each year through fire more than enough to build the Panama Canal.

During 1913, in New York City alone, 588 fires were caused by children playing with matches, with a loss of $32,000.

It has been calculated that more people have been killed in recent years on the Fourth of July celebration than were killed in the whole original Revolution that it celebrates. Nearly 40,000 were killed or injured in Fourth of July fires in the ten years, 1904 to 1914. This is why sensible people have risen up and demanded a safe and sane Fourth.

Fireworks and bonfires should be absolutely forbidden. I never yet saw the time or place where a bonfire was not a curse. However safe it may seem, there is sure to be some risk, and it is wasting valuable wood. A true Woodcraft Boy or Girl never makes a bonfire. Let us express our patriotism without ruining our neighbors' property or our own.

Fires would be practically unknown if we followed the advice of Commissioner Adamson of New York City, and practised the

TWENTY-THREE DONT'S

Don't allow children to play with matches.

Don't block the fire escapes.

Don't fail to inspect your own home, or the place where you work, so as to know where all exits are.

Don't throw away lighted matches, cigars, or cigarettes.

Don't go into dark closets, bedrooms, or cellars, with lighted candles or matches.

Don't use kerosene to light fires with, or use benzine or naphtha near open flames.

Don't fill kerosene lamps when lighted.

Don't use a poor quality of kerosene oil.

Don't put ashes in wood boxes or barrels. Keep ashes away from boards.

Don't put hot ashes on dumbwaiter, or near wooden partitions.

Don't have piles of rubbish in the house, or cellars, or in workshops.

Don't use candles on Christmas trees.

Don't keep matches in anything but a closed metal box.

Don't tie back the dumbwaiter shaft in the cellar.

Don't store oils, paints, grease, or fats in the house.

Don't have greasy rags around, they catch fire by themselves.

Don't have lace curtains near gas brackets.

Don't use folding gas brackets.

Don't use gasoline, naphtha, or benzine in the house unless all windows are open and there is no light near.

Don't pour gasoline or naphtha down the drain.

Don't use stoves close on table unless there is a metal sheet underneath the burners.

Don't set stoves right up against the wall. They should have a metal sheet behind them.

Don't look for gas leaks with a lighted match or candle.

IN CASE OF FIRE

But suppose that in spite of your doing your share some one else has failed, and a fire has broken out in a house. The first thing is *keep cool, act quickly, and send in an alarm.*

How. Find the nearest alarm box to your home. If it opens with a key, find out who keeps the key. The ordinary box has no key; you simply turn the handle to the right, open the door, and pull the hook down all the way and let go. Wait until the firemen arrive and direct them to the fire. If you don't know where the nearest alarm box is located, use the 'phone and ask Central for Fire Headquarters, and tell the Fire Department operator the exact address of the building where fire is.

If the fire is in a crowded building, the first thing is to *keep cool* and help others to do the same, for *PANIC* is worse than *Fire.* It kills far more. A cool man who can get up and address the crowd from the step can often do wonders, for though they cannot hear him the crowd can see that he is cool. This helps them.

IN A BURNING HOUSE

Remember that in a house afire there is always good air near the floor, so crawl with head low if the room is full of smoke. If you must open a window, close the door first. Then get out and wave anything you can get, shout and wait. Some fireman will be sure to see and save you if you keep cool. Remember these men are absolutely brave, sure, and quick, they know their business; they are there to help you. The fire that is so serious to you is an everyday thing to them. I might almost say *they never fail,* unless the victim does not keep cool. We may make jokes about our street cleaners, and write harsh things at times about the police and the aldermen, but we are *always proud of our firemen,* and whatever they tell you to do is sure to be the best thing possible at the time.

If your clothing is on fire, roll in any woolen blanket, rug, or coat you can find.

If you find an insensible person in a room full of smoke, get him on the floor, tie his hands together loosely with a towel or suspenders; if you have no cord, throw the end of his coat over his face around your neck, and he is on the floor below you; then crawl out on all fours, straddling him as you drag him.

If some one is cut off, up aloft, so he must jump, let half a dozen men hold a canvas blanket or other strong cloth for him to jump on. Hold it as high as you can with its centre about twelve feet from the base of the wall, and he can jump safely from a great height. Of course, you can help him to hit it by moving it to fit his jump after he is started.

Keep all doors and windows closed as much as possible to cut off the draft.

But always see that the alarm has gone in.

Sleep Outdoors

As you drive through New England in the evening, summer, or winter, you must notice a great many beds out of doors, on piazza or on sun-deck. Many of these are beds of persons who are suffering from lung trouble. They have found out that this is the way to cure it. Some of them are the beds of persons who fear lung trouble and this they know is the way to evade it.

Take, then, this lesson: If possible, every boy should *sleep out of doors* as much as possible; *not on the ground,* and not in the wind, but in a bed, warm, dry, and rainproof, and he will be the better for it.

HEALTH

HEALTH

Health Hints

A law of the Woodcrafter is "understand and respect your body—it is the temple of the spirit." Most of the joy in living comes from a healthy body, every part of which is in perfect order and running smoothly. Health means activity. Only a body which has been used and tried will radiate vitality. There was a time when the body was spoken of as a thing to be ashamed of, as something to hinder one from achieving the worthwhile things. In those days men spoke of spiritual things and wordly things, thinking they were distinct and separate—forgetting that the things of the spirit work themselves out through the body. The most beautiful thing in the world is the human body and the most wonderful. Cherished with this idea the muscles become beautiful and strong, the skin clean and firm. Such a body is fit to meet the struggles of life and has a reserve force to meet the call of emergency. Most of us start with a good body and it is our sacred duty to keep it so.

Breathing

"Shut Your Mouth and Save Your Life" was the title of an essay by George Catlin, a famous outdoor man, who lived among the Indians, and wrote about them 1825 to '40. In this he pointed out that it is exceedingly injurious to breathe through your mouth; that, indeed, many persons injured their lungs by taking in air that was not strained and warmed first through the nose, and in many cases laid the foundation of diseases which killed them.

Don't Turn Out Your Toes Too Much

When you see a man whose toes are excessively turned out, you may know he was born and brought up on sidewalks. He is a poor walker and will not hold out on an all-day tramp.

The mountaineer and the Indian scout always keep their feet nearly straight. It is easier on the feet, it avoids corns and bunions, and it lengthens the stride; makes, in short, a better traveller. A glance at his tracks will tell you how a person walks.

The Keen Eyes of the Indian. Do You Wish to Have Them?

Near-sightedness. An eminent eye doctor, Dr. W. H. Bates of New York, has found out how you can have sight as keen and eyes as good as those of the Indians who lived out of doors. After many years' study of the subject he has established the following:

a. The defect known as near-sight or short-sight seldom exists at birth, but is acquired.

b. Besides being acquirable, it is preventable and in some cases curable.

c. It comes through continual use of the eye for near objects only, during the years of growth.

The Remedy. The remedy is, give the eye regular muscular exercise every day for *far-sight* by focussing it for a few minutes on distant objects. It is not enough to merely look at the far-off landscapes. The eye must be definitely focussed on something, like print, before the necessary muscular adjustment is perfect and the effect obtained.

The simplest way to do this is—get an ordinary eye testing card, such as is sold for a nickel at any optician's. Hang it up as far off as possible in the schoolroom and use it each day. Train your eyes to read the smallest letters from your seat.

By such exercises during the years of growth almost all short-sight, or near-sight, and much blurred sight or astigmatism, may be permanently prevented.

An interesting proof is found by Dr. Casey Wood in the fact that while wild animals have good sight, caged animals that have lost all opportunities for watching distant objects are generally myopic or short-sighted. In other words, nature adapts the tool to its job.

Dry Footgear

A certain minister knowing I had much platform experience said to me once: "How is it that your voice never grows husky in speaking? No matter how well I may be my voice often turns husky in the pulpit."

He was a thin, nervous man, very serious about his work and anxious to impress. I replied: "You are nervous before preaching, which makes your feet sweat. Your socks are wet when you are in the pulpit, and the sympathy between soles and voice is well known. Put on dry socks just before entering the pulpit and you need not fear any huskiness."

He looked amazed and said: "You certainly have sized me up all right. I'll try next Sunday."

I have not seen him since and don't know the result, but I know that the principle is sound—wet feet, husky throat.

Poison Ivy

The Chief had always believed himself immune from poison ivy attack, but not long ago had a gruelling experience that dispelled this illusion. He had undertaken to root out a large and vigorous bed of the green terror and successfully carried out the plan. But next day, the ivy had its revenge. His hands, wrists and neck were covered with an itching, prickly, burning rash that was like a maddening combination of nettles, hair shirt, bee-stings, itch, scurvy and leprosy.

Hot water with plenty of soap was used on all the parts, then a washing of alcohol, finally a treatment of cold cream. Where the skin was broken, a painting of iodine was applied.

The first and second days and nights, the itching and burning were fearful and forbade sleep or rest. Water as hot as it could be stood provided an immediate though temporary relief. This, followed by the alcohol and cold cream treatment, gradually exorcised the demon.

In three days, the worst was over, and in a week, all traces of the attack were gone.

The Chief is wiser now.

Hiking

It is a good rule in hiking to set out with the idea of keeping the party together, having a pleasant time, and seeing interesting things, rather than of showing how hardy you are. It is as bad as trying to show how smart you are. Do not try to make a record. Record breakers generally come to grief in the end. Take a few boys, not more than a dozen, and set out determined to be moderate. Plan a moderate trip of which not more than half the time must be consumed in going and coming.

For example, if it is Saturday afternoon and you must be home by six o'clock, having thus four hours, divide the time into two hours' travel, going and coming, and two hours' exploration or sight-seeing. Three miles is a moderate walk for one hour, so that should be the limit of distance that ordinarily you tramp from your starting point. At five o'clock all hands should be ready to face homeward.

In a large city it may be that the hike will be taken to a park, to a museum, or to a place or point of historical interest. In this connection it might be well for some member of the tribe to make a list of the interesting historical places, of the museums of various kinds, of interesting buildings, including any manufacturing plants; and have this list ready when it is decided to take a hike.

The following are some of the rules which have been found good in hiking:

Do not go in new shoes.

Make sure that your feet are comfortable. (A comfortable shoe is not too tight nor too loose.)

See that your stockings are without holes and ordinarily without large darns. (When going on a long hike it is well to take an extra pair of stockings with you.)

In walking keep your toes practically straight ahead of you.

Walking with your feet turned out is tiring and results in foot trouble.

Try to have the members of the group of similar age and physical ability.

If going in the country it is well to take a tape line, knife, some string, and some matches.

A compass and a pocket level and a map also are of value in many cases.

A notebook and pencil are of great value.

Remember that the value of the hike is in doing things which you cannot do at home, and last and most important it is wise to set out with a definite object. Here are some of the objects for a short hike:

To determine that hard maple or any other timber does or does not grow in such woods or such a park.

To see how many kinds of trees can be discovered in a given place, or how many kinds of wild flowers.

To practise the building of fires of wildwood material.

To have a practical demonstration in cooking.

To get acquainted with the birds.

To learn the geological formation of a certain rock or ledge.

To get 100 straight rods, 30 inches long; to make an Indian bed of willow, hazel, red willow (kinikinik) arrowwood, etc.

To get wood for rubbing sticks or the fire-bow.

To get horns for a Caribou dance.

If there is snow, to take, by the tracks, a census of a given woods, making full-size drawings of each track—that is four tracks, one for each foot, and also give the distance to the next set.

Most important of all, remember that though it is wise to start with an object, it is still wiser to change whenever some much more alluring pursuit or opportunity turns up. Any one who sticks to a plan merely because he started that way, when it turns out to be far from the best, is not only unwise —he is stupid and obstinate.

Make sure that as you travel to the point you have selected that your eyes and ears are open to see the hundreds of interesting things that may be seen along the roadside.

Books Recommended

Boys' Book of Hiking, Edward Cave. Published by Doubleday, Page & Co. Price 50 cents.

On Patriotism

The word patriotism stands in history for the noblest type of fortitude and self-sacrifice, and yet that same word can be used as a cloak for almost any crime,—has been the excuse for more crimes in history, perhaps, than any other known motive power, except religion. Without attempting to dissect what has always proven the most intricate complication of impulses, I shall relate four incidents which shed light or contain guidance for those who are in need of such.

1

At a great military review in the Old World long ago, a young soldier was selected to stand before the Emperor as the perfect type of military physical manhood. To make sure that his moral and mental equipment were as satisfactory as his physique, the Ruler said: "If I command you to slaughter your mother right now, would you do it?"

"Instantly, without hesitation, Sire," was the answer.

"Correct," said the Emperor. And he forthwith decorated him as the ideal of his Army.

2

When George III of England ordered the British Army to America to crush the Colonists, then in rebellion, British officers by the hundred resigned, rather than fight their brethren who were in the right; consequently King George had to import Hessians for the job.

3

When Socrates was on trial for his life, he spoke in his own defense. After reminding them that he had been a valiant soldier in defense of the republic, he proceeded to show that his loyalty to righteousness was stronger than his loyalty to his country's government in the following words: "When the Oligarchy of the Thirty was in power, they sent for me and four others into the rotunda, and bade us bring Leon the Salaminian from Salamis, as they wanted to execute him. This was a specimen of the sort of com-

mands which they were always giving with the view of implicating as many as possible in their crimes; and then I showed not in words only, but in deed, that, if I may be allowed to use such an expression, I cared not a straw for death, and that my only fear was the fear of doing an unrighteous or unholy thing. For the strong arm of that oppressive power did not frighten me into doing wrong; and when we came out of the rotunda, the other four went to Salamis and fetched Leon, but I went quietly home. For which I might have lost my life, had not the power of the Thirty shortly afterwards come to an end."

4

The Pharisees came to Jesus and said: "Who is my neighbor."

And Jesus, answering, said: "A certain man went down from Jerusalem to Jericho, and fell among thieves, which stripped him of his raiment, and wounded him, and departed, leaving him half-dead.

"And by chance there came down a certain priest that way: and when he saw him he passed by on the other side.

"And likewise a Levite, when he was at the place, came and looked on him, and passed by on the other side.

"But a certain Samaritan, as he journeyed, came where he was: and when he saw him, he had compassion on him.

"And went to him, and bound up his wounds, pouring in oil and wine, and set him on his own beast, and brought him to an inn, and took care of him.

"And on the morrow when he departed, he took out two pence, and gave them to the host, and said unto him: "Take care of him; and whatsoever thou spendest more, when I come again, I will repay thee."

"Which now of these three, thinkest thou, was neighbor unto him that fell among the thieves? (Luke 10.)

Sign Language

From the "Book of Woodcraft," by Ernest Thompson Seton. Doubleday, Page & Co.

See Sign Talk, by E. T. Seton. 700 ills. Published by Doubleday, Page & Co.

Do you know the Sign Language?

If not, do you realize that the Sign Language is an established mode of communication in all parts of the world without regard to native speech?

Do you know that it is so refined and complete that sermons and lectures are given in it every day, to those who cannot hear?

Do you know that it is as old as the hills and is largely used in all public schools? And yet when I ask boys and girls this question, "Do you use the Sign Language?" they nearly always say "No."

Why should you talk the Sign Language There are many reasons:

In this code you can talk to any other Woodcrafter without an outsider knowing or understanding.

It makes conversation easy in places when you must not speak aloud, as in school, during music, or by the bedside of the sick.

It is a means of far-signalling much quicker than semaphore or other *spelling* codes, for this gives one or more words in one sign.

It will enable you to talk when there is too much noise to be heard, as across the noisy streets.

It makes it possible to talk to a deaf person.

It is a wonderful developer of observation.

It is a simple means of talking to an Indian or a Woodcrafter of another nationality whose language you do not understand. This indeed is its great merit. It is *universal.* It deals not with words but with ideas that are common to all mankind. It is therefore a kind of Esperanto already established.

So much for its advantages; what are its weaknesses? Let us frankly face them:

It is useless in the dark;

It will not serve on the telephone;

It can scarcely be written;

In its pure form it will not give new proper names.

To meet the last two we have expedients, as will be seen, but the first two are insurmountable difficulties.

Remember, then, you are to learn the Sign Language because it is *silent, far-reaching,* and the one *universal language.* Since it deals fundamentally with ideas, we avoid words and letters, but for proper names it is very necessary to know the one-hand manual alphabet. (See p. 136.)

Here are some of the better known. Each boy will probably find that he has known and used them all his schooldays:

You (pointing at the person);

Me (tapping one's chest);

My, mine, yours, possession, etc. Hold out the closed fist, thumb up, and swing it down a little so thumb points forward.

Yes (nod). When far off, make your right hand, with all fingers closed except index and thumb which are straight and touching at top, advance, bend toward the left side as though bowing, then returned and straight again.

No (head shake). When too far for that to be seen, hold the closed right hand in front of the body, then sweep it, outward and downward, at the same time turn the palm up as though throwing something away.

Eat (throw the flat hand several times past the mouth in a curve);

Drink (hold the right hand as though holding a cup near the mouth and tip it up);

Sleep (lay the right cheek on the right flat hand);

Look (flat hand over eyes);

Look there (point and look in same direction);

Touch (reach out and touch with index);

Listen (flat hand behind ear);

Whisper (silently move lips, holding flat hand at one side of mouth);

Silence or *hush* (forefinger across lips);

I will not listen (hold flat hands on ears);

I will not look (cover eyes with hands);

Taste (lay finger on lips);

Smell (hold palm to nose);

That tastes good (smack the lips);

The food was good (pat the stomach);

Bad taste (grimace and spitting out);

Bad smell (hold the nose);

Drinking (lift right hand to mouth as though it held a glass);

Smoking (make as though holding a pipe and drawing);

Paint (use flat right as a brush to paint flat left);

Shave (use finger or thumb on face as a razor);

Wash (revolve hands on each other as in washing);

Bend (with right hand bend left index);

Break (with fists touching, make as though to bend a stick, then swing the fists apart);

Write (make the action with index);

Strike (strike down with fist);

Fighting (make the fists menace each other);

Set it afire (sign match, and then thrust it forward);

Drive horses (work the two fists, side by side);

Finished or *done* (hold out the flat left hand palm to the right, then with flat right hand and chop down past the ends of the left fingers);

Search me (hold the coat flaps open in each hand);

Swim (strike out with flat hands);

Dive (flat hands together moved in a curve forward and down);

Will you come swimming? (first and second fingers raised and spread, others closed);

Good (nod and clap hands);

Bad (shake head and grimace);

"*Very*" or "*very much,*" is made by striking the right fist down past the knuckles of the left without quite touching them, the left being held still;

Hot (wet middle finger in mouth, reach it forward and jerk it back);

Cold (fists near shoulder and shaken);

Good-bye (hand high, flat, palm down, fingers wagged all together);

Thank you (a slight bow, smile and hand-salute, made by drawing flat hand a few inches forward and downward palm up);

Surrender (both hands raised high and flat to show no weapons);

I am thinking it over (forefinger on right brow and eyes raised);

I forgot (touch forehead with all right finger tips, then draw flat hand past eyes once and shake head);

I wind him around my finger (make action with right thumb and index around left index);

I have him under my thumb (press firmly down with top of right thumb);

Sleepy (put a fist in each eye);

Bellyache (with hands clasped across the belly);

Sick (a grimace and a limp dropping of hands);

Go (move hand forward, palm first);

Come (draw hand toward one's self, palm in);

Hurry (same, but the hand quickly and energetically moved several times);

Come for a moment (hand held out back down, fingers closed except first, which is hooked and straightened quickly several times);

Stop (flat hand held up; palm forward);

Gently or *Go easy* (like "stop," but hand gently waved from side to side);

Get up (raise flat hand sharply, palm upward);

Sit down (drop flat hand sharply, palm down);

Rub it out (quickly shake flat hand from side to side, palm forward);

Up (forefinger pointed and moved upward);

Down (ditto downward);

Way or *road* (hold both flat hands nearly side by side, palms up, but right one nearer the breast, then alternately lift them forward and draw them back to indicate track or feet travelling);

Forward (swing index forward and down in a curve);

Backward (jerk left hand over shoulder);

Across (hold left hand out flat, palm down, run right index across it);

Over and above (hold out flat left, palm down, and above it hold ditto right);

Under (reverse or foregoing);

It's in my pocket (slap pocket with flat hand);

I send you a kiss (kiss finger tips and move hand in graceful sweep toward person);

I pray (clasped hands held up);

I am afraid, or *surrender* (hold up both flat hands palm forward);

I forget (slowly shake head, and brush away something in air, near the nose);

I am seeking (looking about and pointing finger in same directions);

I have my doubts (slowly swing head from side to side);

You surprise me (flat hand on open mouth);

Connivance (winking one eye);

Puzzled (scratch the head);

Crazy (tap forehead with index then describe a circle with it);

Despair (pulling the hair);

Weeping (with index finger at each eye, trace course of tears);

Friendship (hands clasped);

Threatening (fist shaken at person);

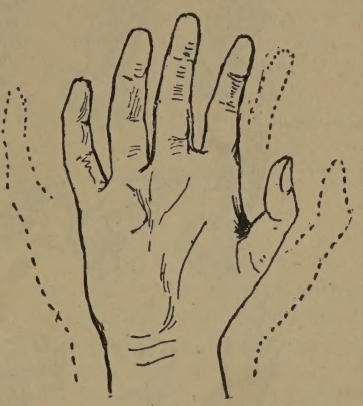
Warning (forefinger gently shaken at a slight angle toward person);
Scorn (turning away and throwing an imaginary handful of sand toward person);
Insolent defiance (thumb to nose tips, fingers fully spread);
Indifference (a shoulder shrug);
Ignorance (a shrug and headshake combined);
Arrogant (indicate swelled head);
Pompous (indicate a big chest);
Incredulity (expose white of eye with finger, as though proving no green there);
Shame on you (right forefinger drawn across left toward person several times);
You make me ashamed (cover eyes and face with hands);
Mockery (stick tongue at person);
Disdain (snap fingers toward person);
Applause (silently make as though clapping hands);
Victory (one hand high above head as though waving hat);
He is cross (forefinger crossed level);
Fool or ass (a thumb in each ear, flat hands up);
Cutthroat (draw index across throat);
I am no fool (tap one side of the nose);
Joke (rub side of nose with index);
Upon my honor (with forefingers make a cross over heart);
I beg of you (flat hands tight together and upright);
Do you think me simple? (forefinger laid on side of nose);
Will you? or, *is it so?* (eyebrows raised and slight bow made);
Bar up, *fins*, or *I claim exemption* (cross second finger of right hand on first finger and hold hand up);
Poverty (both hands turned flat forward near trouser pockets);
Bribe (hand held hollow up behind the back);
Give me (hold out open flat hand pulling it back a little to finish);
I give you (the same, but push forward to finish);
Pay (hand held out half open, forefinger and thumb rubbed together);
Give me my bill (same, then make motion of writing);
Church (hands clasped, fingers in, but index fingers up and touching);
Revolver (hold out right fist with index extended and thumb up);
Gun or shooting (hold hands as in aiming a gun);
Match (make the sign of striking a match on the thigh);

Knife (first and second fingers of right hand used as to whittle first finger of left);

House. Hold the flat hands together like a roof.

Pistol (making barrel with left hand, stock and hammer with right, snap right index on thumb);

Query. The sign for *Question*—that is, "I am asking you a question," "I want to know"—is much used and important. Hold up the right hand toward the person, palm forward, fingers open, slightly curved and spread. Wave the hand gently by wrist action from side to side. It is used before, and sometimes after, all questions. If you are very near, merely raise the eyebrows.



Query Sign

The following are needed in asking questions:

How Many? First the *Question* sign, then hold the left hand open, curved, palm up, fingers spread, then with right digit quickly tap each finger of left in succession, closing it back toward the left palm, beginning with the little finger.

How Much? Same as *How many?*

What? What are you doing? What do you want? What is it? First give *Question,* then hold right hand palm down, fingers slightly bent and separated, and, pointing forward, throw it about a foot from right to left several times, describing an arc upward.

When? If seeking a definite answer as to length of time, make signs for *Question, How much,* and then specify time by sign for hours, days, etc. When asking in general "*When*" for a date, hold the left index extended and vertical, others and thumb closed, make a circle round left index tip with tip of extended right index, others and thumb closed; and when the index reaches the starting point, stop it, and point at tip of left index (what point of shadow?).

Where? (What direction?) *Question,* then with forefinger sweep the horizon in a succession of bounds, a slight pause at the bottom of each.

Which? Question, then hold left hand in front of you with

palm toward you, fingers to right and held apart; place the end of the right forefinger on that of left forefinger, and then draw it down across the other fingers.

Thus *"Will you eat?"* would be a *Question, you eat,* but *Have you eaten?* would be, *Question, you eat, finished.*

Why? Make the sign for Question, but do it very slowly.

Who? Question, and then describe with the right forefinger a small circle six inches in front of the mouth.

It takes a good-sized dictionary to give all the signs in use, and a dictionary you must have, if you would become an expert.

A very pretty Woodcraft sign is given as follows: First, give the *Question* sign, then make an incomplete ring of your right forefinger and thumb, raise them in a sweep until above your head, then bring the ring straight down to your heart. This is the Indian way of asking, "Is the sun shining in your heart?"—that is, "Are you happy?"—your answer will be made by the right hand and arm standing up straight, then bowing toward the left, followed by a sharp stroke of the right fist knuckles past those of the left fist without their touching, which means: "Yes, the sun shines in my heart *heap strong*."

Picture-writing

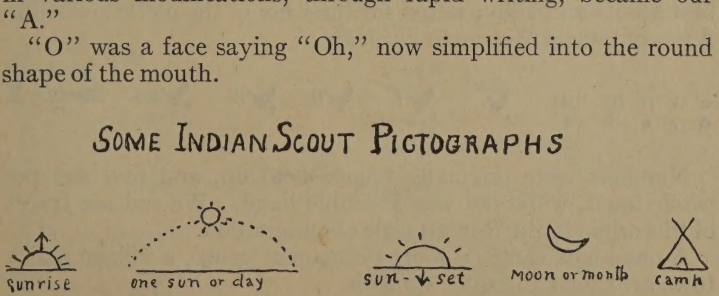
The written form of Sign Language is the picture-writing also called Pictography and Ideography, because it represents *ideas* and not words or letters. It is widely believed that Sign Language is the oldest of all languages; that indeed it existed among animals before man appeared on earth. It is universally accepted that the ideography is the oldest of all writing. The Chinese writing for instance is merely picture-writing done with as few lines as possible.

Thus, their curious character for "*Hearing*" was once a complete picture of a person listening behind a screen, but in time it was reduced by hasty hands to a few scratches; and "*War*," now a few spider marks, was originally a sketch of "two women in one house."

To come a little nearer home, our alphabet is said to be descended from hieroglyphic ideographs.

"A" or "Ah," for example, was the sound of an ox represented first by an outline of an ox, then of the head, which in various modifications, through rapid writing, became our "A."

"O" was a face saying "Oh," now simplified into the round shape of the mouth.



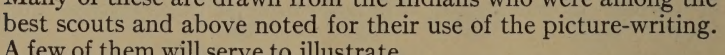
"S" was a serpent hissing. It is but little changed to-day.

We may also record our Sign Language in picture-writing, as was the custom of many Indian tribes, and we shall find it worth while for several reasons: It is the Indian special writing; it is picturesque and useful for decoration; and it can be read by any Indian no matter what language he speaks. Indeed, I think it probable that a pictograph inscription dug up 10,000 years from now would be read, whether our language was

understood or not. When the French Government set up the Obelisk of Luxor in Paris and wished to inscribe it for all time, they made the record, not in French or Latin, but in pictographs.

It is, moreover, part of my method to take the child through the stages of our race development, just as the young bird must run for a send-off, before it flies, so pictography being its earliest form is the natural first step to writing.

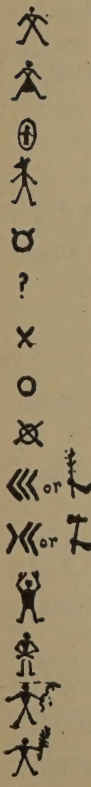
In general, picture-writing aims to give on paper the idea of the Sign Language without first turning it into sounds. In the dictionary of Sign Language is given the written form after each of the signs that has a well-established or possible symbol. Many of these are drawn from the Indians who were among the best scouts and above noted for their use of the picture-writing. A few of them will serve to illustrate.

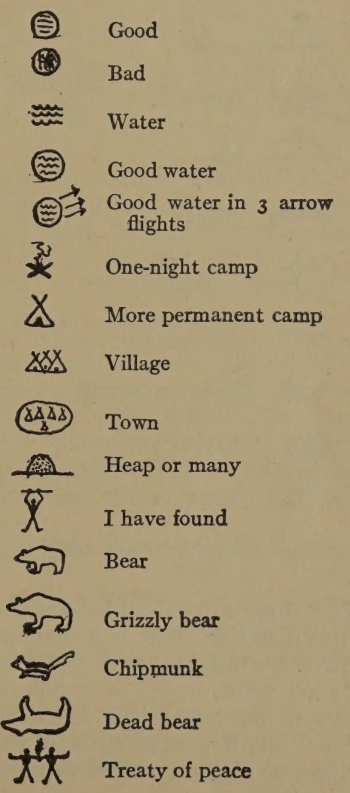


Numbers were originally fingers held up, and five was the whole hand, while ten was a double hand. We can see traces of this origin in the Roman style of numeration.

A one-night camp, a more permanent camp, a village and a town are shown in legible symbols.

An enemy, sometimes expressed as a "snake," recalls our own "snake in the grass." A "friend" was a man with a branch of a tree; because this was commonly used as a flag of truce and





had indeed the same meaning as our olive branch. The tree is easily read; it was a pair of figures like this done in Wampum that recorded Penn's Treaty.

"*Good*" is sometimes given as a circle full of lines all straight and level, and for "*bad*" they are crooked and contrary. The wavy lines stood for *water*, so *good water* is clearly indicated.

Level

Direction forward

Direction backward

Sun or day

Sunrise

Sunset

Noon

Night

Day back one, or yesterday

Day forward one, or to-morrow

Moon, or month

Rain

Snow

Year (or snow round to snow)

Snow Moon or January

Hunger Moon or February

March the Wakening or Crow Moon

Grass Moon or April

Planting Moon or May

Rose Moon or June

Thunder Moon or July

Red Moon or Green Corn August

Hunting Moon September

Leaf - Falling Moon October

Mad Moon November

Long Night Moon December

The three arrows added mean that at three arrows' flight in that direction, that is a quarter mile, there is good water. If there was but one arrow and it pointed straight down that meant "good water here," if it pointed down and outward it meant "good water at a little distance." If the arrow was raised to carry far, it meant "good water a long way off there." This sign was of the greatest value in the dry country of the South-

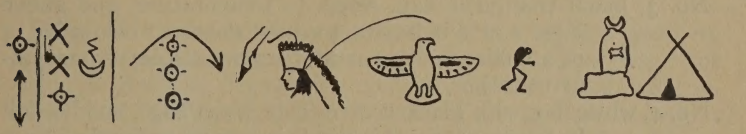
west. Most Indian lodges were decorated with pictographs depicting in some cases the owner's adventures, at other times his prayers for good luck or happy dreams.

The old Indian sign for peace, three angles all pointing one way that is "agreed," contrasts naturally with the "war" or "trouble" sign, in which they are going different ways or against each other.

An animal was represented by a crude sketch in which its chief character was shown, thus chipmunk was a small animal with long tail and stripes. Bear was an outline bear, but grizzly bear had the claws greatly exaggerated.

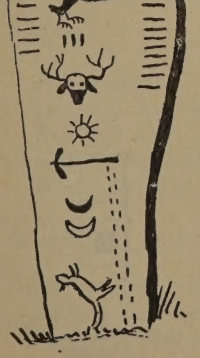
When the animal was killed, it was represented on its back with legs up.

Each chief, warrior, and scout had a totem, a drawing of which stood for his name or for himself.



A man's name is expressed by his totem; thus, the above means, To-day, 20th Sun Thunder Moon. After three days "Deerfoot," Chief of the Flying Eagles, comes to our Standing Rock Camp.

When a man was dead officially or actually, his totem was turned bottom up.



Here is a copy of the inscription found by Schoolcraft on the grave post of Wabojeeg, or White Fisher, a famous Ojibway chief. He was of the Caribou clan. On the top is his clan totem reversed, and on the bottom the White Fisher; the seven marks on the left were war parties he led.

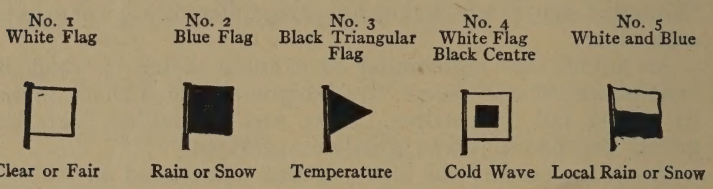
The three marks in the middle are for wounds.

The moose head is to record a desperate fight he had with a bull moose, while his success in war and in peace are also stated.

This inscription could be read only by those knowing the story, and is rather as a memory help than an exact record.

Weather Signals

(Adopted for general use by the United States Signal Service on and after March 1, 1887.)



No. 1, white flag, clear or fair weather, no rain.

No. 2, blue flag, rain or snow.

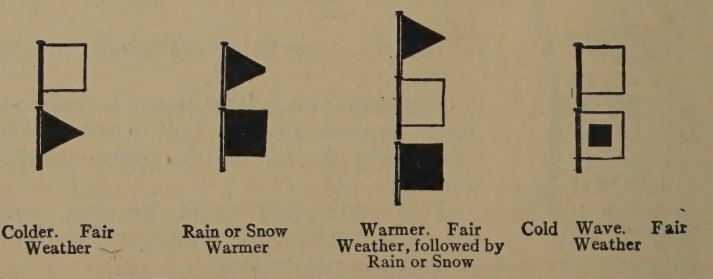
No. 3, black triangular flag, refers to temperature, and above Nos. 1 or 2 indicates warmer weather; below No. 1 or 2, colder weather, and when not displayed, stationary weather.

No. 4, white flag with black centre (cold wave flag), sudden fall in temperature; this signal is usually ordered at least twenty-four hours in advance of the cold wave. It is not displayed unless a temperature of forty-five degrees or less is expected, nor is flag No. 3 ever displayed with it.

No. 5, means local rain or snow; with 3 above it means with higher temperature; and with 3 below it means lower temperature.

A red flag with a black centre indicates that a storm of marked violence is expected.

Display Examples



Storm and Hurricane Warnings

N. E. Winds. S. E. Winds N W Winds S. W. Winds Hurricane.

Storm Warnings.—A red flag with a black centre indicates a storm of marked violence. The pennants displayed with flags indicate direction of wind—red, easterly; white, westerly; pennant above flag indicates wind from northerly quadrants; below, from southerly quadrants.

By night a red light indicates easterly winds, white light below red, westerly winds.

Two red flags with black centres indicate approach of tropical hurricane.

No night hurricane signals are displayed.

Signals on the Railway

Most of us are familiar with some of the signals given by brakemen, conductors, or engineers, but not so many of us have sat right down to inspect the code, as officially fixed. A conductor on the Canadian Pacific Railway allowed me to copy it out from his "Trainman's Book," 1909, and since then I have been told that this is the code in universal use, so I give it in full.

It consists of color signals, hand and lantern signals, toots and cord-pulls. It will add a new interest to the journey, at least when you can read the "Signs of the Iron Trail," and the "Talk of the Iron Horse."

The Code

(From C. P. R. "Trainman's Book," 1909, No. 7563; but in general use.)

Colors:

Red = stop.
Green = Go ahead.
Yellow = Go cautiously.
Green and White = flag station. Stop at night.
Blue = Workmen busy under car.

Hand, Flag and Lamp Signals:

Swung across track . . . . . Stop.
Raised and lowered vertically . . . Go ahead.
Swung at half-arms' length, in small circle across track, train standing . . . Back up.

Swung vertically in a big circle at arms' length across the track, when train is running . . . . . Train broken in two.
Swung horizontally above head, when train is standing . . . . . Put on air-brakes.
Held at arms' length above the head, when train is standing . . . . Release air-brakes.

Other Hand Signals, modifications of the above:

Hand (or hands) held out horizontally and waved up and down . . . . Go ahead.
Hand (or hands) suddenly drawn flat and horizontal . . . . . Stop.
Sometimes hands raised and held palms forward . . . . . All right.
Arm thrust forward and swept back opposite shoulders, as in beckoning . Come back.

Signals by Engine Whistle:

(o a short toot. — a long one)

o = Stop; put on brakes.
— — = Take off brakes; get ready to start.
— ooo = Flagman go out to protect rear of train.
— — — — = Flagman returned from west or south.
— — — — — = Flagman returned from east or north.
— — — = (When returning) Train broken in two. To be repeated till answered by the same from the trainman, i. e., No. 4 in hand, flag, and lamp signals. Similarly, this is the answer to No. 4 of hand, flag, and lamp signals.
oo = (All right) the answer to any signal not otherwise provided for.
ooo = (When the train is standing) back up; also is reply to signals to "back up."
oooo = Call for signals.
— oo = Calls attention of other trains to signals.
oo = The acknowledgment by other trains.
— — oo = Approaching grade-crossings, and at whistle posts.
— — = Approaching stations.
o — = (When double-heading) Air-brakes have failed on leading engine, and second

engine is to take control of them. Second engine repeats same as soon as it has control

oooooooooo, etc. = Cattle (or persons) on the track.

Air-whistle or Cord-pull:

When the train is standing:

Two blasts = Start.
Three " = Back.
Four " = Put on or take off brakes.
Five " = Call in flagman.

When the train is running:

(All but the 2d are answered by 2 blasts)
Two blasts = Stop at once.
Three " = Stop at next station.
Four " = Reduce speed.
Five " = Increase speed.
Six " = Increase steam-heat.
Seven " = Release air-brakes, or sticking brake.

The engineer responds to these with two short toots, meaning "All right," except in the second, when the engineer answers in there short toots.

BLAZES AND SIGNS

Blazes

First among the trail signs that are used by Woodcrafters, Indians, and white hunters, and most likely to be of use to the traveler, are axe blazes on tree trunks. Among these some may vary greatly with locality, but there is one that I have found everywhere in use with scarcely any variation. That is the simple white spot meaning, *"Here is the trail."*

The Indian in making it may nick off an infinitesimal speck of bark with his knife, the trapper with his hatchet may make it as big as a dollar, or the settler with his heavy axe may slab off half the tree-side; but the sign is the same in principle and in meaning, on trunk, log, or branch from Atlantic to Pacific and from Hudson Strait to Rio Grande. "This is your trail," it clearly says in the universal language of the woods.

There are two ways of employing it: one when it appears on back and front of the trunk, so that the trail can be run both ways; the other when it appears on but one side of each tree, making a *blind trail,* which can be run one way only, the blind trail is often used by trappers and prospectors, who do not wish any one to follow their back track.

But there are treeless regions where the trail must be marked; regions of sage brush and sand, regions of rock, stretches of stone, and level wastes of grass or sedge. Here other methods must be employed.

A well-known Indian device, in the brush, is to break a twig and leave it hanging (*second line*).

Among stones and rocks the recognized sign is one stone set on top of another (*top line*) and in places where there is nothing but grass the custom is to twist a tussock into a knot (*third line*).

These signs also are used in the whole country from Maine to California.

SIGNS AND BLAZES

Signs in Stones

This is the Trail

Turn to the Right

Turn to the Left

Important Warning

Signs in Twigs

This is the Trail

Turn to the Right

Turn to the Left

Important Warning

Signs in Grass

This is the Trail

Turn to the Right

Turn to the Left

Important Warning

Signs in Blazes

This is the Trail

Turn to the Right

Turn to the Left

Important Warning

Code for Smoke Signals

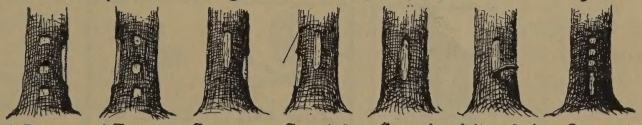
Camp is Here

I am lost. Help!

Good News

All come to Council

Some Special Blazes used by Hunters & Surveyors


A Trap to Right

A Trap to Left

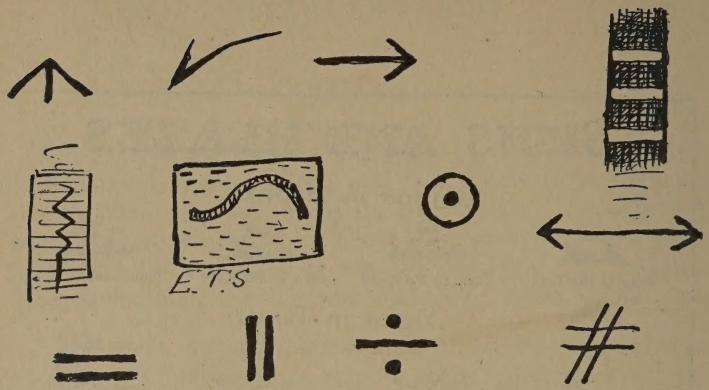
Camp is to Right

Camp is to Left

Special

Adirondack Special

Surveyor's Line Here



Woodcraft Blazes in Town

Point officially fixed; checked off; that direction; a crossing three posts ahead; live wire; dangerous curve; exact centre; both ways; equals; parallel; divided by; number.

Standard Signs of the Road

In running a trail one naturally looks straight ahead for the next sign; if the trail turned abruptly without notice one might easily be set wrong, but custom has provided against this. The tree blaze for turn "to the right" is shown in No. 2, fourth row; "to the left" in No. 3. The greater length of the turning blaze seems to be due to a desire for emphasis as the same mark set square on is understood to mean "Look out, there is something of special importance here." Combined with a long side chip it means "very important; here turn aside." This is often used to mean "camp is close by," and a third sign that is variously combined but always with the general meaning of "warning" or "something of great importance" is a threefold blaze. (No. 4 on fourth line.) The combination (No. 1 on bottom row) would read "Look out now for something of great importance to the right." This blaze I have often seen used by trappers to mark the whereabouts of their trap or cache.

Surveyors often use a similar mark—that is, three simple spots and a stripe to mean, "There is a stake close at hand," while a similar blaze on another tree near by means that the stake is on a line between.

Stone Signs

These signs done into stone-talk would be as in the top line of the cut.

These are much used in the Rockies where the trail goes over stony places or along stretches of slide-rock.

Grass and Twig Signs

In grass or sedge the top of the tuft is made to show the direction to be followed; if it is a point of great importance three tufts are tied, their tops straight if the trail goes straight on; otherwise the tops are turned in the direction toward which the course turns.

The Ojibways and other woodland tribes use twigs for a great many of these signs. (See second row.) The hanging broken twig like the simple blaze means "This is the trail." The twig clean broken off and laid on the ground across the line of march means, "Here break from your straight course and go in the line of the butt end," and when an especial *warning* is meant, the butt is pointed toward the one following the trail and raised somewhat, in a forked twig. If the butt of

the twig were raised and pointing to the left, it would mean "Look out, camp, or ourselves, or the enemy, or the game we have killed is out that way." With some, the elevation of the butt is made to show the distance of the object; if low the object is near, if raised very high the object is a long way off.

These are the principal signs of the trail used by Woodcrafters, Indians, and hunters in most parts of America. These are the standards—the ones sure to be seen by those who camp in the wilderness.

Smoke Signals

There is in addition a useful kind of sign that has been mentioned already in these papers—that is, the Smoke Signal. These were used chiefly by the Plains Indians, but the Ojibways seem to have employed them at times.

A clear hot fire was made, then covered with green stuff or rotten wood so that it sent up a solid column of black smoke. By spreading and lifting a blanket over this smudge the column could be cut up into pieces long or short, and by a preconcerted code these could be made to convey tidings.

But the simplest of all smoke codes and the one of chief use to the Western traveler is this:

One steady smoke—"Here is camp."

Two steady smokes—"I am lost, come and help me."

I find two other smoke signals, namely:

Three smokes in a row—"Good news."

Four smokes in a row—"All are summoned to council."

These latter I find not of general use, nor are they so likely to be of service as the first two given.

Signal by Shots

The old buffalo hunters had an established signal that is yet used by the mountain guides. It is as follows:

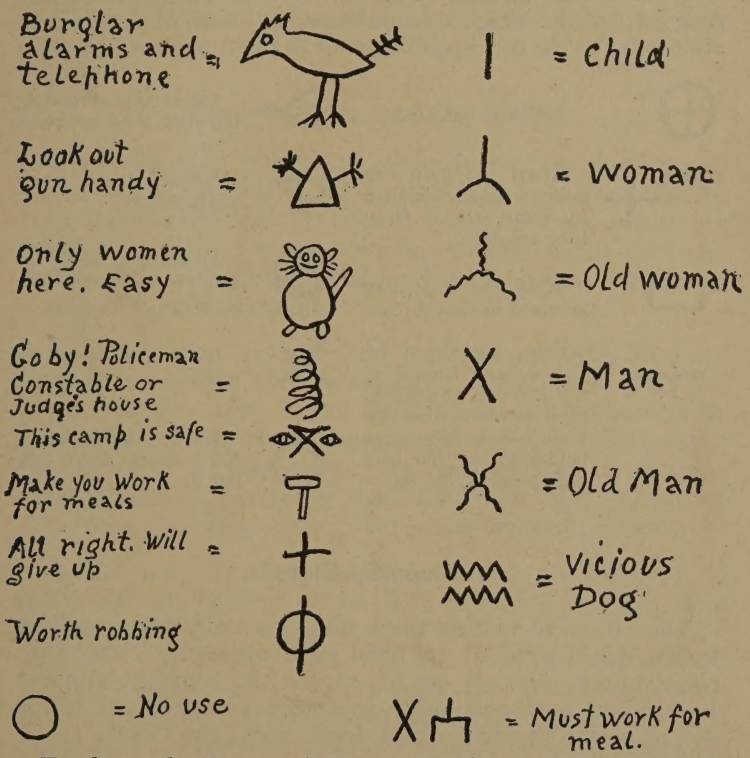
Two shots in rapid succession, an interval of five seconds by the watch, then one shot; this means, "where are you?" The answer given at once and exactly the same means "Here I am; what do you want?" The reply to this may be one shot, which means, "All right; I only wanted to know where you were." But if the reply repeats the first it means, "I am in serious trouble; come as fast as you can."

Tramp Signs

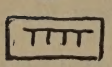
Among the many signs and blazes doing active service in our cities, just as their predecessors did in the wilderness, are the signs of tramps and Gypsies.

These, no doubt, vary from time to time, but they must be fairly permanent and general; otherwise, they would not serve their purpose.

An interesting article on Tramp Signs appears in the *American Examiner* of January 30, 1910. It is accredited to Professor Wallace Ernster (Michigan University) and Chief of Police C. J. McCabe, of Poughkeepsie, N. Y. It gives the following as well-established Tramp Signs:



To these, the Reverend Horace E. Clute, of New York, in December 6, 1914, issue of the same paper adds:

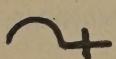


In Chambers' Encyclopedia, 1901, is an important article on Vagrants. The author is Chief Constable Henderson. He notes the fact that "The Book of Vagabonds and Beggars," edited by Martin Luther in 1529, is one of the most interesting and instructive records of Vagrants, and classifies them in twenty-eight well-known groups.

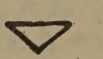
He then gives the following blazes used by Vagrants, Tramps, or Mouchers in England. I do not know that these are used in America, but the same ideas are in use and some of these marks are much like the corresponding ones in the American List.

Religious but kind.

Go in this direction; the other road not good.



Stop. If you are selling what they happen to want, they'll buy; they are cute.



Spoiled; too many vagrants call.

Mind the dog; may give you in charge.

Dangerous; likely to be given in charge.

Cross sticks put by Gypsies and tramps at the junction of roads to show in which direction their friends have gone before them; the long limb pointing the way.

Too poor; give nothing.

Good; safe for something if you don't talk much.

Automobile Signals

The officer regulating the traffic uses daily and hourly at least a dozen signs of the hand sign language. Thus: stop, come, hurry, go, easy, go by, go left, go right, go straight, I warn you, go to the curb, there, here, you, me, him, tuttut, yes, no, I don't understand, I don't care, I can't hear.

All of these are very ancient, well-known and much used. All are set forth in the listed signs of the *Book of Woodcraft*.

But there are a few that the automobilist has developed recently. They are quite new and have been made official; as follows:

When you are driving and wish to signal the driver behind you, warning or stop is signalled by your flat left hand held out of the window, thumb up.

Left turn, that is, I am going to the left: hand out with fingers closed and index finger pointing to left and upwards.

Right turn, that is, I am going to the right: Same as the foregoing, but index finger pointed down and out.

Go by me: Flat hand with fingers slightly spread, rotated.

Roof Camping and Gardening

In our big cities where land is so valuable that an acre commonly brings millions of dollars, we have long been pinched for playgrounds, and Woodcraft pursuits seem out of the question. All the cry of overstocked cities is for light and space. And with all this need, we have long shut our eyes to a most obvious and abundant supply.

In New York, congested New York, for example, there are thousands of acres of open sunlight, well-ventilated unused space, which a very slight acquaintance with Oriental or Occidental nations would have taught us to use. We refer to the flat roofs of the houses. In Greater New York these must amount to nearly ten thousand acres; half at least of this offers good chances for roof camps or roof gardens.

A roof camp has been established under the guidance of the Woodcraft League. It has first a parapet all about, then a higher wall of strong mesh wire. Along one side is a row of small "dog" tents. In a brazier, secure in the middle of a stone hearth, is a fire. An elevator near by affords a quick trip to the swimming tank in the basement. Some semblance of verdure is offered by vines and trailers in boxes; and thus, a hundred feet above the street, the boys or girls are in another world, and can dress and live much as in camp.

Many little experiments are now being made to utilize these waste spaces; roof gardens are very possible to-day; flowers, fruit, and vegetables can be grown successfully, and even bird sanctuaries are being attempted.

These are not yet a success; but it seems likely that, with food, drink, shelter, protection, and nesting boxes supplied, we could in time induce some acceptable birds to found their little colonies in such places. English sparrows and starlings would doubtless be the first to respond, but there are some reasons for expecting success also with swallows, martins, nighthawks, sparrowhawks, screech-owls, pigeons, etc.; while some western species like the crimson house-finch might be brought in on trial.

The whole field is open at present and almost unexplored, but it seems to be one of unusual promise.

Individual Tally Book

Every Woodcrafter should have an Individual Tally Book and notebook. Nothing adds so much to future enjoyment as such a record of achievements, exploits, and knowledge; to say nothing of the souvenirs in forms of photos, sketches, rhymes, and songs. It adds greatly to the interest and value if the book is bound in a leather cover which may be decorated in various ways.

Indian Names for the Months

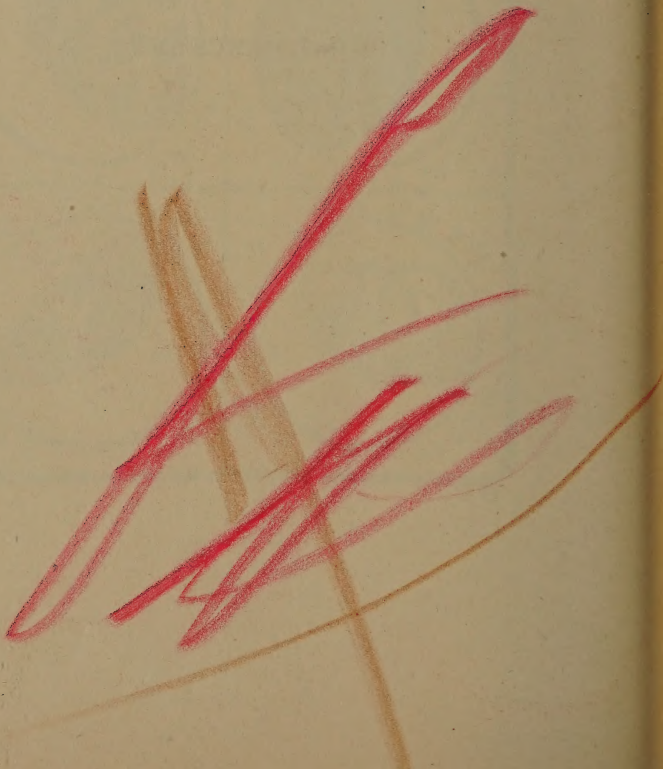
Most all primitive people called the months "Moons." The North American Indians particularly were noted for naming the months quaintly and well. The following is a list which may be used:

(January) Snow, (February) Hunger, (March) Crow or Wakening, (April) Wild Goose or Green Grass, (May) Planting, (June) Rose, (July) Thunder, (August) Green Corn or Red, (September) Hunting, (October) Falling Leaf, (November) Mad, (December) Long Night.

MARCH
WAKENING or CROW MOON
JUNE
ROSE MOON
APRIL
WILD GOOSE or GREEN-GRASS MOON
JULY
THUNDER MOON
MAY
PLANTING or SONG MOON
AUGUST
GREENCORN or RED MOON
E.T.S.

SEPTEMBER
HUNTING MOON
DECEMBER
LONG NIGHT MOON
OCTOBER
FALLING-LEAF MOON
JANUARY
SNOW or COLD MOON
NOVEMBER
MAD MOON
FEBRUARY
HUNGER MOON
E.T.S.

CAMPERCRAFT



CAMPERCRAFT

THE SUMMER CAMP

Do you wish your boy to read and write? "Yes, why ask such a question? I send him to the best of schools."

Do you wish your boy to be a high-class, strong American with a sane outlook, a healthy body, and clean pleasures? Then send him to the place where such things are taught, not only by good teachers and good precepts, but chiefly by the all-pervading influence of the thought, the irresistible magic of atmosphere with its night and day insidious compulsion, an agency that can be found only in an isolated community, only in an outdoor community, only in a selected and harmonious community—that is, in a high-class summer camp.

Who was the father of the great outdoor movement, the back to nature idea, that is possessing America with such benignant force to-day? There can be little doubt that Moses was the first to recognize its value. He established for his people the Feast of Tabernacles, that is, an annual camp-out, for a memorial of their fathers' big camping trip across the desert, and also to bring them back to things simple and primitive, so necessary to their continued national life.

We are just beginning to realize the importance of these things. Everyone of us who can, goes to the woods each year.

But a false idea has crept in. It is the fashion nowadays to go to camp for the summer, but what is meant by camp?

Is it an outing? Certainly not with one class. Too often with such, the very essentials are left out: The memorial of the days when the fathers of this country were roughing it, making everything with their own hands; the total change of surroundings, thought and way of life; the simplicity, the bodily and mental discipline; the tonic of the sun by day; the open campfire and the sweet soothing air by night,—these most precious and healing things of all, are missing. For these fashionable campers merely build in the wilderness another Fifth Avenue mansion, taking with them their city

clothes, foods, servants, ways and thoughts; and call their new abode "a camp" because it has some bark slabs nailed on the outside.

Against all of this, the real campers should make a stand. We want the simple life, the primitive life, the outdoor life; with a different world and wholly different activities. Baseball and billiards may be good games, but not for a summer camp; because one can, and does get them, elsewhere. We need some studies, some reading, but not arithmetic or ancient history; they do not belong. Nature-work, Woodcraft, Scouting, Forestry, are ideal studies all of them, for they combine athletics, handicraft, brain work and observation, they are out of doors, and in these teacher and pupil are learning together.

But there is only one perfect place for these happy combinations, that is the Summer Camp.

The physical advantages of this primitive life can scarcely be over-estimated.

Not long ago I made the acquaintance of a family in which both girls were broken down nervous wrecks, one pronounced hopeless for she had St. Vitus Dance. The parents tried every known remedy. Then the wise old doctor said, "The only hope is camping out. Go as soon as the weather is warm enough, and never sleep indoors till they are cured." In the one case it took 6 weeks, and in the other 3 months, but when I saw them, they were strong and healthy, all traces of "nerves" had gone. I never knew a case of indigestion or nervous breakdown, insomnia or anaemia to continue long in camp.

Exposure to sun and air, as in camp life, is now the specific remedy for a dozen troublesome skin diseases.

Many a man have I known with weak lungs or even well on in consumption, who has been cured simply by camping out.

Its mental discipline is equally salutary.

Many a boy who was as helpless and useless as a baby, as selfish as a Turkish husband, has had his real awakening in the summer camp.

Many a girl who was spoiled, hopelessly irritable and selfish at home, has, under the stimulation and subtle ceaseless influence of a high, clean camp, been gently wrought into a new character, and made a desirable member of the home circle.

If your boy is peevish and spoiled at home, send him to camp. Is he disorderly in dress or manner? Send him to camp.

Is he inclined to be a sissy and afraid to play the part of a man? Send him to camp.

Is he disrespectful to his parents and teachers? Send him to camp. There he will slowly, surely, kindly and firmly be brought into line, in one short summer.

"I do not know what you have done to my boy," said one father after his son had been three weeks in a good Woodcraft Camp, "but he is wholly changed since he came. He had no respect for anyone or anything. We could not get him up in the morning, and he hated a bath. Now, he really shows some consideration, takes his regular morning dip, and is even drilling his little brother in matters of proper conduct."

Yes, these are the effects of the camp life, with its high, clean standards, and self-contained community, PROVIDED YOU SELECT YOUR CAMP.

Not the big military camp, where each boy is a mere private to be ordered about, and "treated rough"; not the loose camp where tent-life means mere unrestraint, but the up-to-date modern camp, with leaders who are trained to the work selected, tried and proven.

Camp where the four fundamentals of Woodcraft are not only taught but lived, all day and all night:

Things to make a sound body.

Things to make a sound mind.

Things to make a sound spirit.

Things to glorify service.

There must be ten thousand summer camps in America today. Many of them are not sound, but many of them are.

You can easily learn which by looking up the record. If you want your boy or girl to set out on the way to high manhood or high womanhood, send him or her to a carefully selected camp.

OUTFITTING

Outfit for a Party of Six (Camping One Week in Fixed Camp)

1 12-foot teepee (if for cold weather), accommodating five or six, not forgetting a storm-cap,

Or, in summer, a 10 x 12 wall tent.

18 x 10 awning for kitchen and dining-room, in hot or wet weather.

5 yards mosquito-bar and some dope for stinging insects.

3 or 4 one-gallon bags of cotton for supplies.

A few medicines and pill-kit or "first aid," including cold cream, vaseline, or talcum powder for sunburn.

1 strong clothes line; ball of cord; ball of twine; ball of strong linen pack-thread.

Axe.

A sharp hatchet.

Claw-hammer.

Whetstone.

Small crosscut saw.

Spade.

File.

Packing needles and sewing-kit for repairing clothes.

Nails: One lb. of 1½, two lbs. of 2½, two lbs. of 3½, and one lb. of 5-inch.

Soap.

Mirror.

Toilet paper.

Waterproof match-box.

Cooking outfit: Either a ready-made, self-nesting "Buzzacot," or

3 cover-kettles, 10-qt., 4-qt., and 2-qt. (riveted, not soldered).

1 frying-pan, with handle and cover.
2 big spoons.
2 wire grills.
1 butcher knife.
1 bucket.
Salt and pepper casters.
Dishpan.
Coffee-pot (riveted).
Dishcloths and towels.
Folding lantern and supply of candles.
A pocket searchlight.

And for each boy, plate, cup, saucer, also knife, fork, and spoon.

And such other things as are dictated by previous experience or for use in the games to be played.

Besides which each member has ordinary clothes, with a change, and toilet-bag, also:

A rubber blanket.
2 wool blankets.
1 cotton or burlap bed-tick, 2½ x 6¼ ft.
Bathing suit.
A pair of "sneaks" or sport shoes.
Woodcraft suit.
Fishing tackle, according to choice.
Pocket knife.

Food to last six boys one week as follows:

Assorted cereals (oatmeal, wheatena, etc.)	6 lbs.
Rice	2 lbs.
Crackers	10 lbs.
Cocoa	3 lbs.
Tea	½ lb.
Coffee	3 lbs.
Lard	5 lbs.
Sugar	6 lbs.
Condensed milk	12 cans
Butter	7 lbs.
Eggs	3 dozen

Bacon	15 lbs.
Preserves (better still, fresh fruit if it can be obtained)	5 lbs.
Prunes	3 lbs.
Maple syrup	3 quarts
Cheese	1 lb.
Raisins	3 lbs.
Potatoes	½ bushel
White beans	3 quarts
Canned corn	3 cans
Flour	25 lbs.
Baking-powder	1 lb.
Concentrated soups	½ lb.
Salt	2 lbs.
Pepper	1 ounce
Sardines	4 packages
Dried beef	1 lb.
Macaroni	2 lbs.

Fresh fish and game are pleasant variations, but seem to make little difference in the grocery bill.

Tents

There are many styles of small tents on the market; almost any of them answer very well. For those who wish to equip themselves with the latest and best, a 10 x 12-foot wall tent of 10-ounce double-filled army duck, stained or dyed yellow, brown, or dull green, is best. It will accommodate a party of five or six.

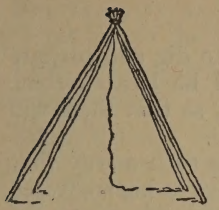
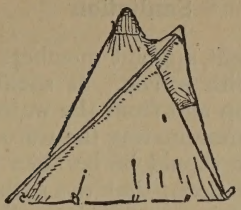
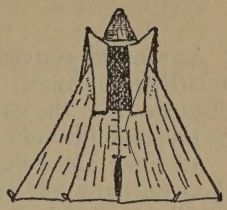
For tramping trips, light tents of waterproof silk are made. One large enough for a man weighs only two or three pounds.

Any of the established makers can supply what is needed if they know the size of the party and nature of the outing.

Teepees

The Indian teepee has the great advantages of ventilation and an open fire inside. It has the disadvantage of needing a lot of poles and of admitting some rain by the smoke-hole.

A new style of teepee, invented by myself some years ago, has been quite successful, since it combines the benefits

of teepee and tent and needs only four poles besides the smoke-poles. It is, however, less picturesque than the old style.

This gives the great advantage of an open fire inside, and good ventilation, while it is quite rainproof.

It can be put up with four long poles *outside* the canvas, the poles crossing at the top as in the Indian teepee. Of course the point of the cover is attached before the poles are raised.

RUNNING CAMP

Camp Grounds

In selecting a good camp ground the first thing to look for is a dry, level place, healthy, near good wood and good water. It is desirable to have the camp face the east and to have some storm break or shelter on the west and north; then it gets the morning sun and the afternoon shade in summer. Sometimes local conditions make a different exposure desirable. For obvious reasons it is well to be near one's boat landing.

Arriving at Camp

As soon as all are on the ground with their baggage, locate the places for the tents (ordinarily this should be done in advance). If the camp is a large one let the leaders allot the locations. Try to have each tent about twenty-five feet from the next, in a place dry and easy to drain in case of rain and so placed as to have sun in the morning and shade in the afternoon. Trench each tent carefully. Pitch at a reasonable distance from the water supply and from the latrine.

Sanitation

As soon as convenient appoint members to dig and prepare a latrine, or toilet, with screen. It should be located some distance from the camp and from the water, so that there will be no possibility of contaminating the water.

All litter and refuse should be handled in such a way that the camp grounds are clean, that the garbage is kept covered till disposed of by burning or burying. Woodcraft camps are known for their cleanliness and for the fact that when the camp is over the grounds are as clear of filth, scraps, papers, cans, bottles, etc., as though no human being had ever been there. Anything which draws flies should be carefully avoided.

Leadership

Of course no group would go camping without having some one to act as the Guide or leader. The Guide should be in charge of the camp, supervise the swimming, games, the routine and daily life of the camp. He should decide matters of dispute and with the Tally Chief and Chief of the band, and any others they may care to add, decide matters which require decision. In large camps he will be assisted by assistant guides, each in charge of a group of boys, along with the Chief of each group.

Team Work

There is no place where team work is more needed than in camp. Here boys really "live together," and only as each and every member of the camp does his part will the camp be a complete success. This will mean that the work should be assigned daily to individuals or to groups, depending on the size of the camp. Even the first day rough assignments should be made and just as soon as everybody is settled down, methodic work should be begun. For small groups the following duties should be assigned:

First, Health Chief. Gather up and destroy all garbage each day at a given hour and inspect the latrine hourly and see that all keep the rules.

Second, Mail Chief. Take all letters to the post and bring back all the mail.

Third, Cook. Is responsible for the preparation of the meals for the day.

Fourth, Cook's Assistant, when needed. The assistant may get ice, or do other similar work.

Fifth, Cook's Wood. Cut sufficient supply of wood for the cook's use.

Sixth, Council Fire Wood. Have the wood cut and laid for the Council Fire with sufficient supply for the evening. Must keep the Council Fire bright, not big, but never dull.

These appointments in the case of larger camps will be given to a band or ten group. The main thing is to see that each boy or each tent group is definitely assigned to a duty and that the work is well done.

Camp Officers

If the tribe has not already elected a Tally Keeper it may do so with the approval of the Guide, making sure that the Tally Keeper is representative of the camp and one who will keep a record every day, all being written in the Tally Book.

Camp Program

There should be a regular routine so that everybody may know when things happen. The following is given as a good one; it may be changed to meet the needs of the camp:

6:30 A. M.	Turn out, bathe, etc.
7:00	Breakfast.
8:00	Air bedding in sun, if possible.
10:00	Woodcraft games and practice.
11:00	Swimming.
12:00 M.	Dinner.
1:00 P. M.	Rest hour.
2:00	Games, etc.
5:00	Swimming.
6:00	Supper.
7:00	Evening Council.
9:15	Lights out.
	Sometimes High Council for a few minutes instead of in the morning.

Whether the camp is large or small, the boys should learn to respond promptly. Those who fail to do so should be made to realize the consequence of their carelessness.

Group Work

When the camp has several bands it is wise to work out the rules of the camp and its activities, so as to lay emphasis on the band or ten group. The group should gain or suffer according to the good work or bad work of its members. Some camps give points for good and bad work and the band or tent group is credited with the work of their members. This same idea should be carried out in competitions for the whole camp, so that the band which does the best work during the season would be given recognition of some sort.

Rules

Each camp will make rules when necessary, but the following will be found good in every camp:

No firearms.

No swimming, except at regularly appointed times and places.

No campers should leave camp without permission.

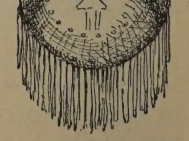
Loose straw, cans, papers, bottles, glass, or filth of any kind lying around are criminal disorder.

Each group is responsible for order as far as the half line between them and the next group.

Inspections

The Guides should inspect at least once a day.

The officer appointed to inspect goes from tent to tent. Each Band is allowed fifty points for normal, then docked one to ten points for each scrap of paper, cans, or rubbish left lying about; also for each disorderly feature or neglect of the rules of common sense, decency, or hygiene, on their territory; that is, up to half-way between them and the next group. They may get additional points for unusually fine work; but it is always as a Band that they receive the points, though it was the individual that worked for them.



The Horns of the High Hikers

After the inspection, the Chief announces the winning Band saying: "The Horns of the High Hikers were won to-day by . . . Band." And the horns are accordingly hung

on their standard, pole, or other place, for the day. At the end of the camp, the Band that won them oftenest carries them home for their own; and ever afterward are allowed to put in one corner of their Tribal Robe a small pair of black horns.

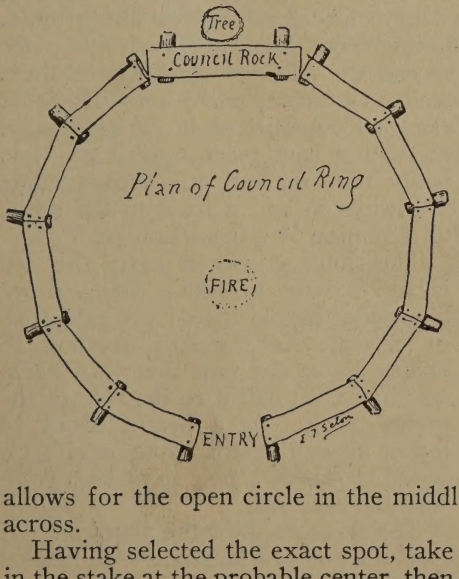
What are they? Usually a pair of polished buffalo horns with a fringed buckskin hanger, on which is an inscription saying that they were won by . . . Band at such a camp.

When buffalo horns cannot be got, common cow horns or even horns of wood are used.

Woodcraft Council Ring

No camp can be truly a Woodcraft Camp without a Council Ring. The Council Ring in the woods about the fire was the original grouping of mankind. When so arranged, we get at once the ancient spirit of the woods—the democratic equalization of responsibility and of honor.

I do not feel that any camp can get the best results without a Council Ring, no matter what organization it may belong to.



I have made 74 of these personally, and that means partly at least with my own hands, and have been responsible for the building of many more.

These are the essentials: — a dry, level, beautiful place in the woods, not more than a quarter of a mile from headquarters, and out of sound of the kitchen. It must be at least forty feet across — that allows for the open circle in the middle of twenty-four feet across.

Having selected the exact spot, take a 12-foot cord; drive in the stake at the probable center, then try the 12-foot radius

from it until you have found the spot that will destroy the fewest trees, and call for least labor in levelling. Set out a dozen or more stakes to mark the rim of this 24-foot circle.

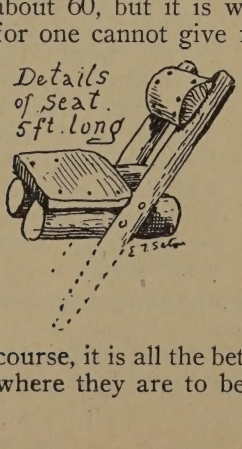
Now begin with axe, spade, etc., to make this absolutely level—as level as a tennis court, because it is used for dancing and performances. If you have no other, you can make a level out of a saucer full of water set on a 10-foot board. The earth cut off the high places is usually enough to level up the low places.

At one side should be the "Council Rock" against one or more big trees, if possible, or a high rock. The Council Rock is usually a plank seat 15 inches high and eight feet long —to accommodate the Chiefs who are running the Council, and the distinguished visitors. Right opposite, as nearly as convenient, should be an opening for entrance; all around the circle elsewhere should be seats 10 or 12 inches high, with a comfortable back to each.

The plan of the Council Ring is as in the diagram, but omits the back to each seat; the other details of the seats are sufficiently shown.

To make the seats, cut about 14 sections of a 10-inch log, each about 18 inches long. Lay these flat on the ground, about 5 feet apart, radiating from the center, each at a place where it can carry the end of a 5-foot plank; have them firmly and evenly bedded. On these, nail pieces of plank, using heavy nails. Make the Council Rock in the same way, but a few inches higher, with a back piece against the tree.

The Ring is now ready for use, and will accommodate about 60, but it is well always to add a back to the seats, for one cannot give full attention if uncomfortable.



The simplest way to carry this out is by driving a 4-inch stake down alongside the block that projects back of the seat. Let this stick up about 18 inches above the seat and lean backward a little; nail it to the side of the under block. At a height about 14 inches above the seat, spike on either a board, a slat or a pole to make a comfortable back rest.

The sketches show the plan, etc. Of course, it is all the better if the poles be flattened with hatchet where they are to be nailed together.

If more seats are needed, a second row can be made outside the first with a space between of 18 inches. The outer ring should be at least 6 inches higher than the inner.

The Fire is placed about 2 feet off the center, nearer the door, so as to increase the open space next the Council Rock, where the performances take place.

As final ornaments, a bar may be nailed across the tree 8 feet above the Council Rock to carry the Chief's Robe or other Ceremonial Robe during Council, and last of all a Totem Pole may be set up opposite the Council Rock, near the entrance, but outside.

Never forget that beauty of approach, as well as of surroundings and details, is all-important in creating the true atmosphere.

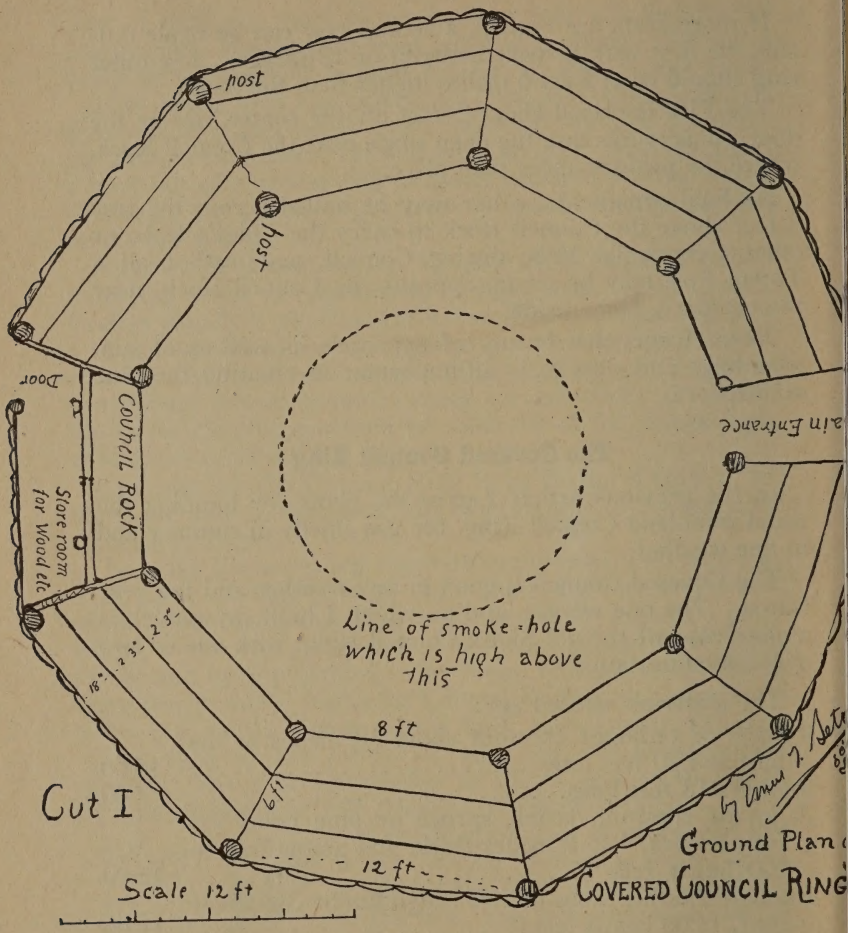
The Covered Council Ring

In the previous article I gave the plans for building the usual woodland Council Ring, for use chiefly in summer and in fine weather.

The Covered Council is good in any weather and the year round. The one we use, and on which I built my model, is a close copy of the old Sioux Council Ring, with one or two slight modifications.

The materials needed are:

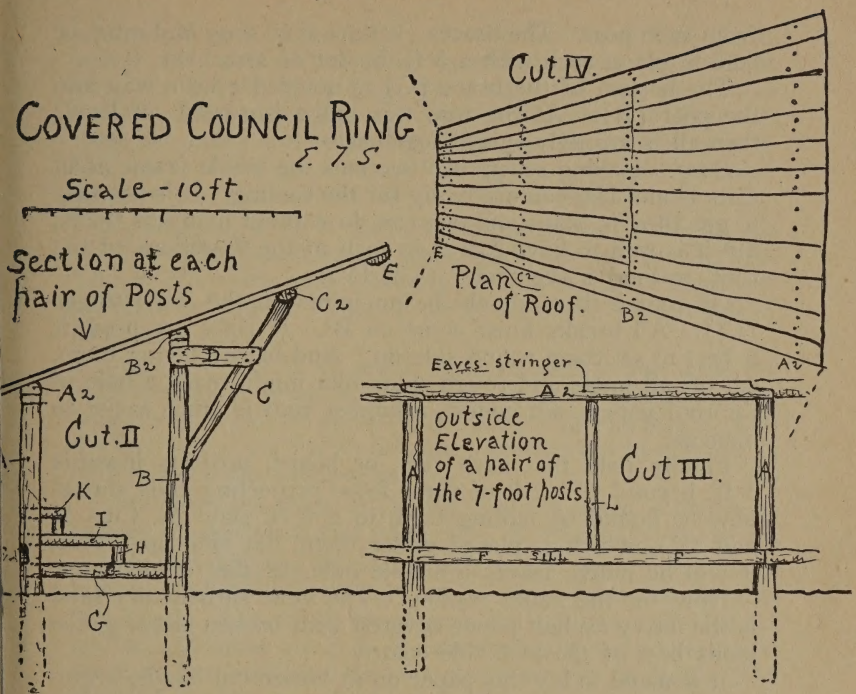
9 posts of cedar or chestnut about 10 inches at the butt and 10 feet long	$5.00
9 others 13 feet long	7.00
A lot of chestnut, cedar, spruce or pine poles for frame work, 4 to 8 inches thick, and amounting to 500 linear feet	15.00
Enough chestnut slabs or else rough lumber, to cover roof, 1,200 board feet	15.00
Enough slabs or lumber to close in the sides all around, 1,000 board feet	15.00
Boards or selected slabs for the seats, 500 board feet	10.00
Roofing paper—1,200 square feet at $3.00 per sq.	36.00
10 lbs. of 3 inch nails, 20 lbs. of 4 inch, 20 lbs. of 5 inch	4.00
Incidentals	13.00
Materials	$120.00



Labor usually equals the cost of material, but nowadays might be more.

First, select a level place, or make one, in some quiet and picturesque spot not more than 400 yards from camp and better half that.

This space must be 36 feet across, with the central 24 feet at least, dead level.



Lay out the plan with 18 stakes representing the 18 posts. (Cut I.) Dig 18 post holes 2½ or 3 ft. deep, set the posts strongly. Saw the tops off the posts level, after they are in, leaving the outer posts 7 ft. above the level of the ground, and the inner, 10 ft. (See Cut II.)

Now prepare to put up the frame. For eave-stringer over the 12 ft. space between each outer post, select a stout 13 ft. pole (A^2 Cut III.) say 5 or 6 inches thick. Flatten its two ends to 3 inches thick, as they are to lap the next pole on the posts. The lap joint is stronger than the butted joint. Spike this in place.

Then at the bottom sink in another stout pole for a sill. (F in II and III.) The ends of this may be butted to the next sill where they meet on each post.

For the upper, inner or 10 ft. level (B^2) on the tall posts (B), the space is only 8 ft., therefore a 9 ft. pole will do. The innermost highest pole (C^2) is across a 6 foot space, so a 7 ft. pole will answer. This last is carried on braces, one

from each post. The braces (C) are 6 ft. long and must be held in place, each with a 3 ft. binder of slab (D).

The bottom of the brace (C) is notched a little way into the post (B). At the top, this brace is sawed off level; then all is strongly spiked together.

Roof. Having set up in 9 sections the whole frame as in Cuts II and III, you are ready for the roofing. It is not easy to get 14½ ft. slabs and one can do without many of them; but it is well to have 2 or 3 in each of the 9 sections of the roof, to bind it together. (Cut IV.)

Of course there should be no joints on the 3rd stringer (C^2). All breaks must come on B^2. If slabs are used, it is best to set them round side up. And before laying them, cut off all knots and rough spots that might make a hole in the roof paper. Of course, a lumber roof is much easier to manage.

Finally note that each slab, or board, projects inwards 3 ft. beyond C^2. All of these loose projecting ends should now be bound by nailing them to a 4 ft. slab (E, Cuts II and IV), which is placed under them, flat side up. This, it will be noted, leaves a smoke hole, 12 feet in diameter.

Now for the paper roofing. The most satisfactory kind is the heavy asphalt paper covered with broken slate; green looks best of the available colors.

It is usual to lay this paper on in horizontal bands, beginning at the top, and leaving the lower edge loose, to slip the next breadth under it. Thus you avoid walking on the paper. If nailed on slabs with round side up, you must select the nailing places carefully, letting the paper sag all it will, into the dip between each slab.

Each paper strip must be cut in a gore at the end of the section; give it 4 inches lap over the next paper on each side.

The paper is best put on in warm weather, as that makes it more pliable, and less apt to break. In time the heat and rain cause it to settle down between the bumps of the slab roof, giving an agreeable and picturesque variation.

Seats

The simplest way to make the seats is as follows:

Spike a stout 6 ft. pole (G) on the face of the posts A and B, so that its top side is 1 ft. from the ground and level; 2¼ ft. back from the front of G, set up the stout strong

post, H, 8 or 9 inches high. On this, set the heavy 3½ ft. pole I, the outer end of which is spiked on the cheek of the post A; 2¼ ft. back from the front of I, set up another 8 inch post, and on that a thick pole K, which is 18 inches long, the outer end spiked as before to the upright post A. Of course, before nailing, all these poles, etc., must be flattened at the place where they fit on the other pole.

Go all around the 9 posts, making a strong frame of this kind, except at the Council Rock, which is the Chief's Seat. This is 2 ft. wide with a sloping back 2 ft. high. There are no seats behind it. That space is reserved for storage of fire-wood, etc.

Of course, the 12 ft. space between posts is too wide for seats without support; therefore, we must set a small upright between each pair of posts (L in III). This upright may be a 4 inch pole, or a 2 x 4 scantling. It rests on the sill, and is butted under the eaves-stringer.

This takes the place of the big posts A when it comes to spiking up the horizontal poles, G, I, K, that carry the seats.

It is now an easy matter to nail on the seats, using scrap lumber or slabs, but taking care to make them comfortable and strong. Cut off all rough and sharp points. The lowest and second seats are 2 ft. 3 inches wide because they must serve as foot-rests for the row above as well as seats. The top seat is 18 inches wide.

Entrance

There should be two entrances, one just behind the Chief's seat for messengers, and one at the most convenient part of the ring for the crowd. Sometimes the main entrance is right opposite the Chief, and that is perhaps best, but it does very well at whatever is the most convenient place. Slab doors with wooden hinges may be added to each entrance if desired.

Closing-In

If necessary to close in the Council Hall for the weather, it is easily done by nailing 7 ft. lumber or slabs up and down between the eave-stringer and the sill, leaving space for the two doors.

Now set up two poles behind the Council Rock 6 ft. apart, 7 ft. higher than the seat; over the top of this put a 7 ft. cross bar. This is to carry the Tribal Robe while the Council sits. Now the Council Ring is complete and ready for consecration. It will seat about 200.

A Woodcraft Cabin

When Moses instituted the Feast of Tabernacles and started the world out on an annual camping trip he undoubtedly had several good reasons in the back of his mind. I imagine the smallest of them was in reference to the very poor but necessary trip that his people, "his forty-niners", made across the plains.

The most important part of it all probably was the complete hark back to the primitive. His people were told to put on wilderness clothes, eat wilderness food, dwell in wilderness tabernacles, and live the wilderness life their fathers had done in the desert.

The resumption of simple life was essential—this elimination of the middleman—the masterful contact of the man with wild nature—this elemental face to face of man and the wilds.

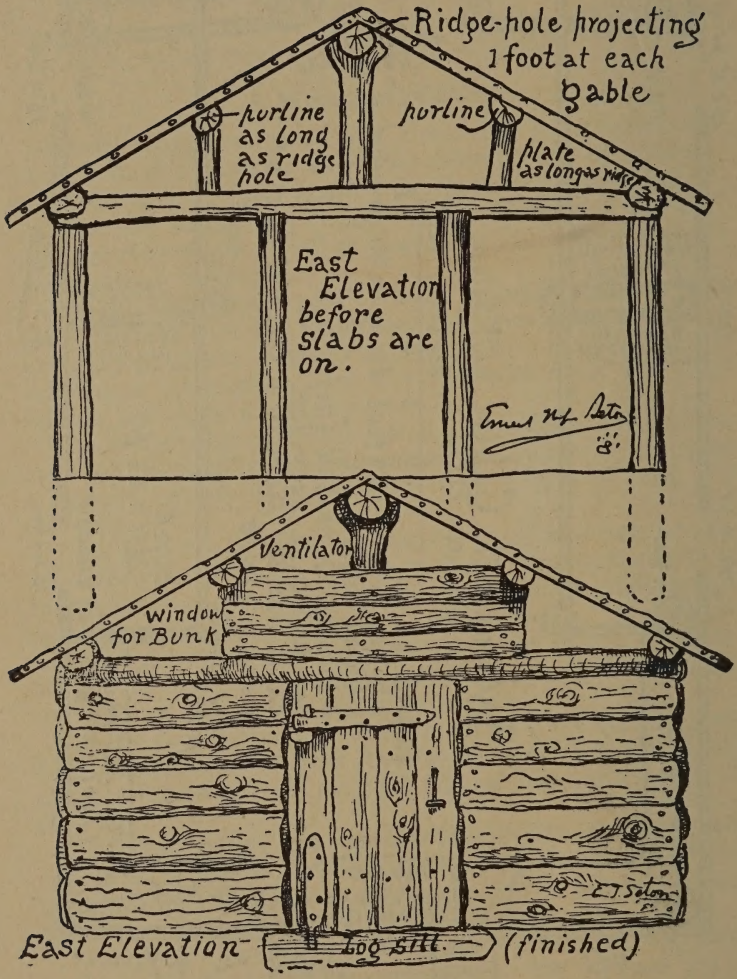
I am sure this is the most valuable thing in it and when I see a New York family building a Fifth Avenue mansion in the Adirondacks, then nailing a few slabs on the outside and calling it a "camp"—I marvel at their poverty. It does not surprise me when I learn that they add tennis, billiards, moving pictures, etc., to relieve their boredom. It does not surprise me but it fills me with sorrow.

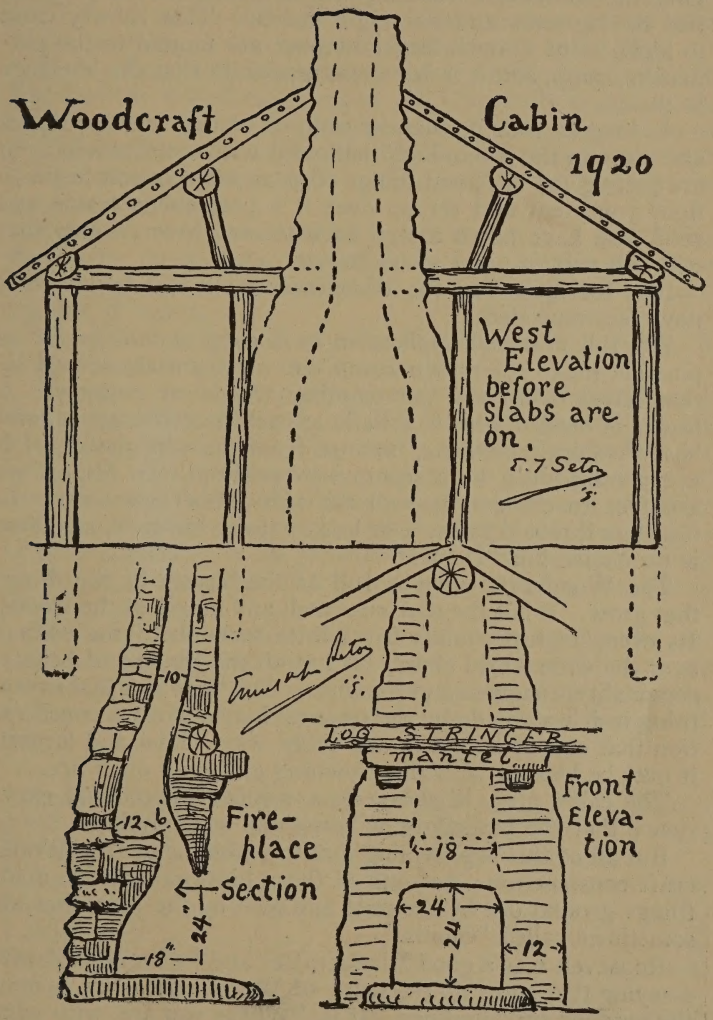
Let us face the matter frankly. There are certain great benefits and certain great dangers in camp life. It is the leader's job to get all the good for his band and dodge all the evil.

The good things are the sun-and-air life, the calm, the sweetness of the night, and the total change of thought and home world. This last is maybe the best of all, yet the one that some campers are deliberately leaving out.

It seems to me that we should begin our camping plans by leaving out everything unnecessary that we can get at home or in town—mansions with oriental fittings, electric lights, graphophones, yes, baseball and tennis as well as billiards, motor boats and motor cars, because we can get them elsewhere. They belong to another life.

Slab Door
Doorway 3ft x 5ft.
Woodcraft Cabin by E.T. Seton
Ground Plan
scale of feet
1 2 3 4 5 6 7
12 x 18 ft.
8 heavy hosts 2½ feet down in the ground
8 light hosts 1½ " " " "
4 bunks: a raised shelf for suit case over foot of each bunk: there is a second tier of bunks above.
host
window
15" x 24"
Shelf for suit case
18" inches above bed
bunk 2½ ft x 6½ ft
Low Seats
Hearth Stone (raised)
seat 15" wide 1 foot from grd.
4 ft
Stone Chimney 2½ x 4'


Ridge-pole projecting 1 foot at each gable
purline as long as ridge pole
purline
plate as long as ridge
East Elevation before slabs are on.
Ernest Thompson Seton
Ventilator
Window for Bunk
E T Seton
East Elevation
Log Sill
(finished)


Woodcraft
Cabin
1920
West
Elevation
before
slabs are
on.
LOG STRINGER
mantel
Front
Eleva-
tion
Fire-
place
Section
10
12
18
24
24
18
24
12

For the complete hark back we have two usual plans. One, the wilderness traveling trip in which we are perforce tied to dog-tents and one-night stands. This is very close to ideal. But a much larger number are limited to the permanent camp, and it is for these especially that this message is meant.

As long as your permanent camp is of real tents or tepees and close to the ground and hallowed with wood smells, you are getting the big good thing. But as soon as you begin to floor your tent and set up over it a permanent frame and roof, you have taken a step back toward town, a step that will rob you of some good things.

It is for these that the Woodcraft cabin was built and is now recommended.

For full practical application each gang should as far as possible make their own camp out of material secured by themselves from the surrounding woods or country. A leader is needed who is artistic as well as constructive, and has Woodcraft instincts, because from the very nature of it every camp must be a separate proposition. In Maine, we are free to cut and use all the soft timber we want. In Carolina it would be more or less of stone, but in Texas there is no choice but "Dobies."

The Woodcraft cabin is full of the beauty of the things that grow. It has the glorious smell and magic of the woods. Its every feature stands for a little triumph of the owners over the wide world about. It has all the charms of beauty, personality, conquest and romance. The very fact that everything in it was made by the owners' hands lends a consecration that cannot be got in any other way. Last and largest, it may be blessed with the crowning glory, an open fire.

The cabin may, in short, be a wonderful spiritual experience that the bungalow or house can scarcely be.

But all of this is providing that the cabin be of true Woodcraft construction; not one of those hideous machine-made things ground out by the mile and sold by the foot, that are sometimes called "cabins."

Roosevelt was a good Woodcrafter and he is credited with a saying that sums up the spirit of Woodcraft, if we assume the outdoor surroundings. It is, "Where you are, with what you have, right now."

The Woodcraft League has found many sympathetic friends in the Y. M. C. A., and when E. M. Robinson showed

his belief in the Woodcraft way by asking us to set up a Woodcraft Cabin, a Woodcraft Council Ring and a Woodcraft Toilet in the woods at Blue Ridge to show at the great May Assembly, it was an opportunity not to be let slip.

E. M. Robinson, himself a doughty woodsman, with the Chief of the Woodcraft League, did practically all the work, and the cabin, except the fireplace, was finished in four days.

The interest it aroused at the Y. M. C. A. Conference was such that many requests have come in for the plans, to be used in other camps.

Please note all are free to use this, but it is asked that those who do so, even in a modified form, retain the name *Woodcraft Cabin* and give credit to the League, for this is a point of honor.

The Woodcraft Cabin at Blue Ridge is 12 ft. x 18 ft. It is 5½ ft. at the eaves, and 9 at the peak.

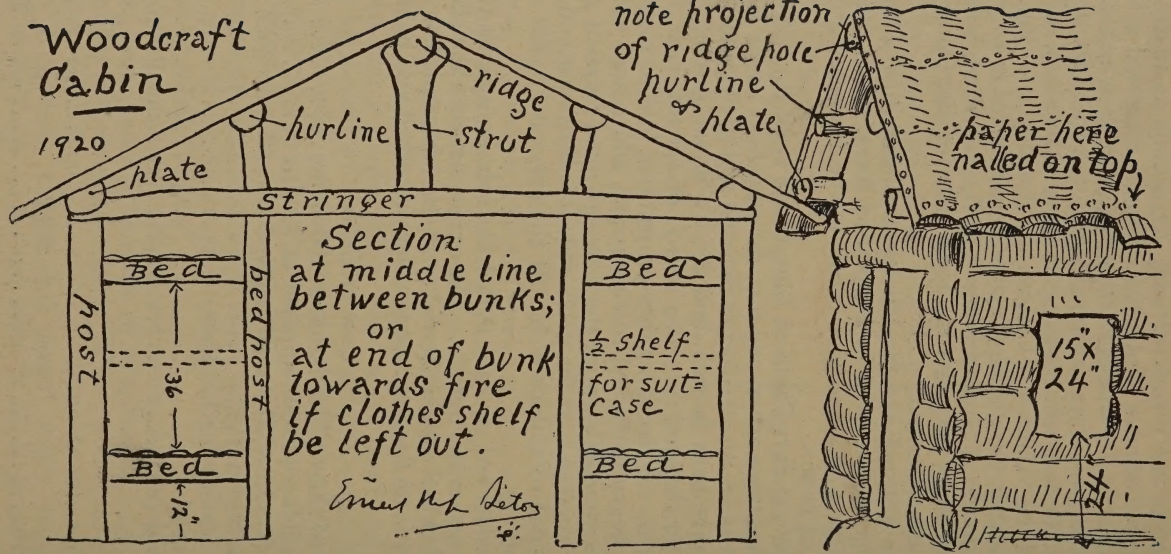
Its posts are about 6 inches through and of chestnut (cedar would have been better), and 2½ ft. in the ground cut off level after they are in. The roof is of spruce slabs laid flat side down. At the eaves they project one foot or more. On them is heavy rubberoid roofing paper, which sags naturally over the rounded sides of the slabs, giving a pleasant variant of their surface. At the gable ends it is bent over and nailed on the edge of a thick slab. At the eaves it lies flat, and is nailed on top.

The walls are of slabs nailed flat side in, against the upright posts on the outside. The cracks between the slabs are covered either with rubberoid or short slabs, nailed on inside.

There is no floor except the clay smoothed and hammered flat.

Cost of Cabin

2 cords of slabs (2 loads, about 100 slabs)	$10.00
3 rolls rubberoid roofing paper at $2.00	6.00
10 lbs. 5″ nails, 10 lbs. 4″ nails, 5 lbs. 3″ nails (25 lbs. at 8 cents)	2.00
2 bags cement for fireplace	2.00
1 load sand	1.00
Odds and ends	4.00
	$25.00
The labor cost about	75.00
Total	$100.00


Woodcraft
Cabin
1920
plate
hurline
ridge
strut
stringer
Section
at middle line
between bunks;
or
at end of bunk
towards fire
if clothes shelf
be left out.
Bed
host
bedhost
36
12"
½ shelf
for suit=
case
note projection
of ridge pole
purline
& plate
paper here
nailed on top
15"x
24"

The stone and timber we gathered in the nearby woods. The tools were on hand and are not charged.

For the benefit of those tribes who cannot get timber, a "rock cabin" will be described.

Ultimately a Navajo hogan will be built and tried out for use in the open country.

The Woodcraft Rock or Stone Cabin

The very spirit of Woodcraft is to use what you have where you are and right now; so that a rock cabin is the best thing to make when you are in a rock country where timber is scarce. It has many advantages over a wooden cabin—thus it cannot burn down, and it will last forever; but it has the disadvantage of being far more work, and in any case, you need some timbers for the roof.

The necessary tools are: for digging foundation, spade and pick; for the stone work, buckets, a shovel and hoe to mix the mortar, mason's hammer, trowel, level, plumb-line and square, as well as 2 crow-bars, spade, and sledge for the heavier stone; for the carpenter work, hatchet, hammer, crosscut handsaw, two-handed timber saw, 1-inch auger, 10 pounds of 3-inch nails, 10 pounds of 4-inch and 5 pounds of 5-inch spikes.

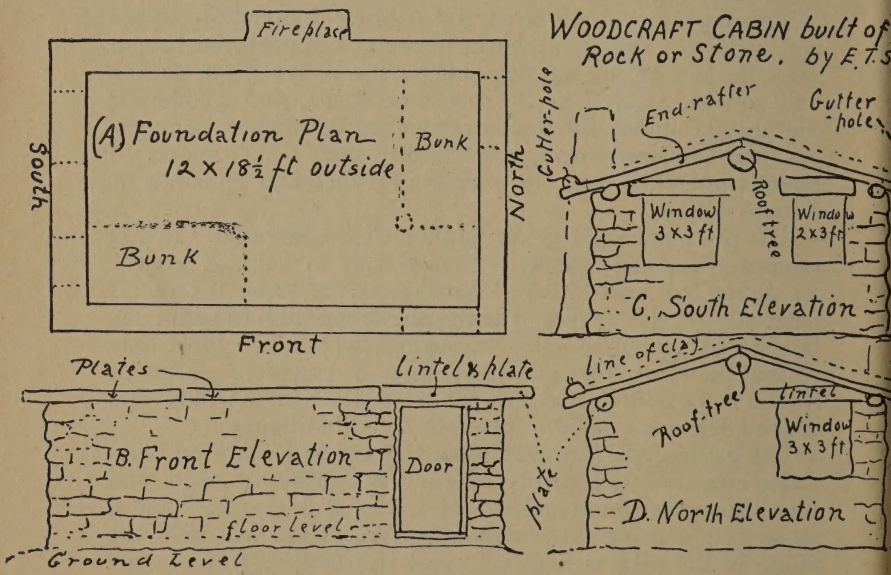
The principal work is the hauling of the material. If you have a team and wagon or stone boat to help, it greatly simplifies the matter. And further, if the stone for use is naturally of flat shapes it turns the labor into fun but, oh, beware of the stone cabin in regions where you have only round boulders for material; then a complete outfit of mason's tools and real cement as well as much skill and much labor are needed to produce a good building.

Let us assume, however, that you are in a slate or lime-stone country, with plenty of good flat stones at hand, and that you have abundance of clay; then it is easy to build a stone cabin, using no bought material. Clay will hold the stone if the rain is kept off; and if, further, you can get enough fresh cow dung to mix one part with 3 parts of clay, you have cement that will mock at the weather for a hundred years.

In addition to the stone and mortar, you need log lintels for windows and door, and a heavy beam or rooftree to carry

the roof. The lintels should be about 8 inches thick and 12 inches longer than the space they are to bridge, and flattened on top and bottom. Railway ties are just the thing. The rooftree should be about a foot thick and 20 feet long, so that it will project a foot at each gable. An old telephone pole is fine for this; it is so important that I often change the plan to fit in with whatever good rooftree I can get. Plates also are necessary to carry the gable projection and to nail all rafters to; for this you need 4 or more heavy poles each about 10 feet long. It will be seen that shorter poles may be used as long as there is a foot projection over each gable and nailing place for the rafters.

The first thing, after drawing the plan, is to decide on the site, and often this calls for a new change in the plan. A big rock all ready for chimney foundation is a great help, and a noble view is worth moving a window to secure.



Morning sun and afternoon shade are desirable, while good ventilation and good drainage are essential.

Some builders are particular about having the house square with the compass points; if you wish it so, your simplest plan

is to go to the place at night, and get the north from the North Star. Then line up one side of your cabin with that.

The plan herewith is 12 x 18½ feet outside; that is, 10 x 16 feet inside, allowing for 14-inch walls (A). This cabin will, however, accommodate 4 fellows in double-decked bunks, or even more if cots or bunk seats be added.

When you have selected your site and staked out your ground plan, the first thing is to dig for the foundation (A).

In the Northern states you must go down 3 feet below the surface to be safe from frost, unless by good luck you strike bedrock or a big boulder.

Having dug a trench about 3 feet wide—that is, wide enough to work in—and 3 feet deep, unless you strike bedrock sooner, all around as in the plan, then begin the foundation by laying in it a row of the biggest stones you can handle. Work each stone into place with crowbars, and block up with smaller stones pushed under, until they sit solid and do not tip up in the least when heavy weight is set on one or the other side. Level up with smaller stones; then add a new layer until 6 inches above the ground—that is, at the intended floor level. The foundation is 3 feet wide at the fireplace.

Now leave a 3-foot opening at the place for the door, that is, 6 inches wider than the intended door; then build up the walls all around 14 inches thick, according to the plan, breaking every joint with a bigger stone right over it, setting every stone firmly on at least 3 points before bedding it in the cement. A properly built stone wall would stand just the same if all the cement were dissolved away. Use the plumb line and work all along the wall until it is 3 feet high. Now leave openings for each of the windows. When the walls are carried up to a height of 6 feet above the floor level, it is time to set the timbers—that is, the wooden lintels over doorway and over each window and over the fireplace—as well as the plates that carry the gable-overhang. When these are placed, as in the sketch, build up the front and back walls level with the top of the lintels; but the two end walls should be gable shape, a foot higher in the middle.

Now roll your big rooftree or ridge log up on to this by means of two skids or long logs leaned against the cabin front, using all the help you can get. This is the grand religious ceremony of the undertaking. It is far more im-

portant than laying the cornerstone. And as soon as it is up and solidly placed, it should, according to ancient custom, have a green bough stuck upright on each end to remain there and bring good luck till the family moves in and lights the first fire, into which these green boughs are cast.

Now for the roof. This calls for about 80 straight poles or rafters, each about 4 inches thick and 7½ feet long. Lay them close together—that is, touching—from the rooftree to the walls, using the hatchet whenever necessary to make them set well. Put a big nail into each at the top end—that is, nail it to the rooftree—and one at the bottom, nailing it to the plate. Let the lower end project over the wall for eaves (C, and D). Be sure that the outside rafter at each end is twice as thick as the others. Four of these thick ones or end rafters are needed.

Now nail a gutter pole across all these rafters, but 6 inches beyond the walls on the over-hang. This may not touch all the rafters, but one good spike every 2 feet will hold it. It should be well fitted and nailed to the two big outside rafters.

Now cover the whole roof with hay or marsh grass evenly to a depth of a foot. Then cover this hay or grass with good stiff clay to a depth of 3 inches all over, well tramped down and sprinkled with a little water if it is too dry to work well; under this the hay goes down to about one inch thick. The big poles at each side, with the gutter poles, act as a frame to hold the clay in its place.

It is well here to sound a note of warning—do not put too much clay on the roof. It is quite possible to crush the timbers with the weight. Enough clay to run off the rain is all that is needed. If the rooftree seems to give, it may call for a post under it inside.

Build up the chimney, keeping the flue undiminished, and carry the chimney up to a foot or more above the highest part of the roof.

The window frames and door frames may be of 1-inch stuff, but are better of 2-inch. They are now fitted into their openings, held there by one or two spikes and plenty of mortar. But it is easier to manage them by making them in advance and building them in where they belong as the wall goes up.

The floor is simply clay, leveled off and hammered smooth.

The finishing of doors, windows, and beds is as in the Woodcraft cabin already described.

A certain amount of plastering will be necessary to cover holes after the roof is on, especially at the gables.

If the fireplace does not draw the smoke, lower the front by building in a thin wall carried on a stone or a green oak timber; or even follow exactly the lines of the fireplace in the Woodcraft cabin. By omitting the fireplace, the labor is, of course, greatly reduced.

Dobies

So far these instructions are for the rock or stone cabin, but many parts of the country have no good building material except stiff clay. By mixing straw or hay or wiry grass in this clay after it is worked up into a paste with water one can make bricks. They should be about 8 x 12 inches x 5 inches thick. They are thoroughly dried or baked on boards in the sun, and used instead of the stone for the cabin. Enough grass is worked with the clay to hold it together when soft. 600 or 700 dobies will be needed for the cabin. It is a lot of work making them but they are easily and quickly laid. There are dobie houses in the West over 400 years old, and Babylon was built chiefly of these, so do not fear that they will soon crumble.

The rest of the building methods are the same as for the stone cabin.

The Woodcraft Toilet

It is easy to *buy* a satisfactory sanitation department if you have several hundreds of dollars to spend; but the Woodcraft toilet may fairly claim to answer the ideal requirements and to be obtainable at a cost of about $2.00 and a little labor.

For this make a light sentry box, 3 feet by 3 on the ground plan; 5½ feet high in front, and 5 feet behind. The frame may be of 3-inch poles or of 2 by 4's, or even of 1½-inch boards. If of poles, as in true Woodcraft, use only soft wood and select straight poles.

Begin by making two frames, one for front and one for back, as in the diagrams A and B, each joint being made by

cutting away half each pole and overlapping. Nail these together as in C. The roof boards at one end and the floor boards at the other hold the frames in place.

Leave out the middle part of the floor so that there is a hole 10 inches wide and 15 inches long (diagram D). The under-support to the short pieces of flooring is indicated by the dotted lines.

Cover the opening with a hinged lid that drops on to it (diagram E), fitting tightly when down, or resting back against the wall when up.

Note that there is no seat.

This style is the "hole-in-the-floor" plan. Theoretically, it is best. It gives the proper position to the body, with knees higher than hips.

But we were not brought up that way, and it may be well to make the slight compromise of a low seat. If this is used, it should not be over 14 inches high, and the hole should be rectangular, not oval, 8 or 10 inches wide, and 18 to 20 inches from front to back, that is, the full width of the seat. This obviates all personal contact except on the two necessary places at the side that support the body. This opening should be covered with a fly-tight hinged lid.

The old-fashioned round or oval hole is a menace. At the front part especially the woodwork is likely to convey itch, lice, poison ivy and several horrible diseases.

In the Woodcraft toilet, this is entirely cut out.

The roof may be either of boards laid close or of thin slabs laid round side up and trimmed smooth.

The final cover of the roof is of tar-paper, as described in the cabin article.

If the sides are to be closed in with burlap or canvas, the angles should be braced as shown by the dotted lines in A, B, and C. If light boards are used, the braces are hardly needed.

For door, use either a curtain or a screen a couple of feet away.

Now dig a hole in the ground, 3 or 4 feet deep and about 2 feet square. Set the sentry box squarely and firmly over this. Have at hand a box of slacked lime with a trowel, and the affair is complete. Every time it is used, a little lime should be thrown in. The earth should be tightly banked up outside the house. The floor should be light-tight, using tar-paper when necessary. It is quite essential that the

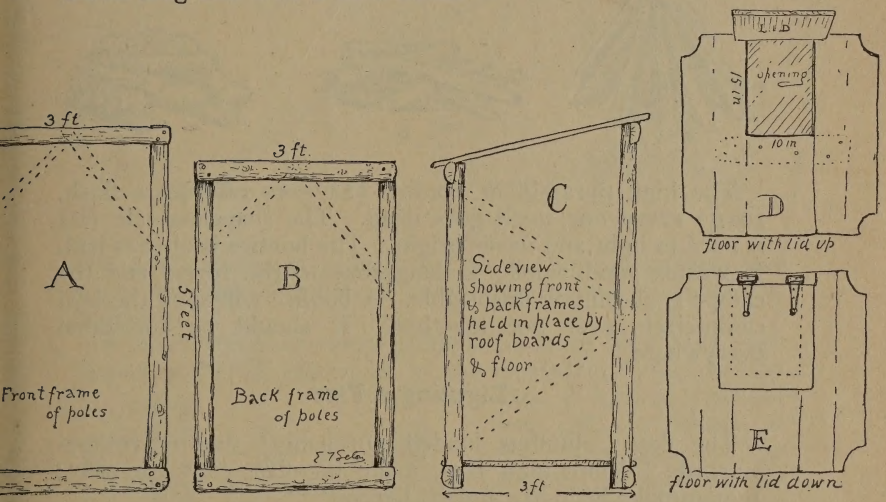
floor, the lid, and the pit be light-tight when the lid is down.

This toilet house has been found to be ideal—absolutely sanitary, natural, fly-proof, odorless, and costing almost nothing.

When no lime is at hand, ashes can be used, or even dry earth.

When the pit is nearly full, move the house, level it off with earth, then dig another pit, and set the house over that.

If a larger house is needed, make it on the same lines but 8 feet long and with 3 floor holes.



Making Council Fire

The Council Fire is a very different thing from the cooking-fire or the so-called bonfire. And there are just as many ways of making it wrong.

These are the essentials:

It must be easily started.

It must give a steady, bright light.

It must have as little heat as possible, for it is mostly used in the summer. Therefore, it must be small.

It is best built as in (c), about two and one-half feet high; the bottom stick about three feet long; the rest shorter and smaller.

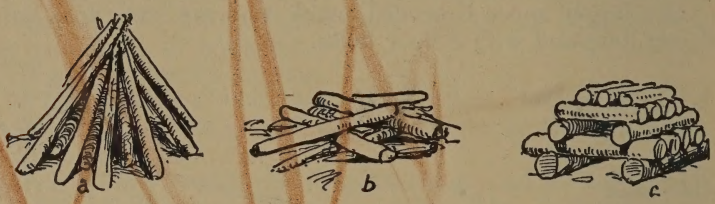
The small wood and chips to light it can be put either under or on top of the second layer.

It should be drawn in toward the top, so as to burn without falling apart.

It must contain a large proportion of dry, winter-seasoned wood, if it is to blaze brightly. The readiest seasoned wood is usually old lumber.

For an all-evening Council Fire, at least three times as much should be in stock as on the fire when started.

Here are some wrong methods:



The high pyramid or bonfire (a) goes off like a flash, roasts every one, then goes dead. The shapeless pile (b) is hard to light and never bright. The bonfire is always bad. It wastes good wood; is dangerous to the forest and the camp; is absolutely unsociable. A bonfire will spoil the best camp-circle ever got together. It should be forbidden everywhere.

Lighting a Fire

The day Columbus landed (probably) the natives remarked: "White man fool, make big fire, can't go near; Indian make little fire and sit happy."

We all know that a camp without a campfire would be no camp at all; its chiefest charm would be absent.

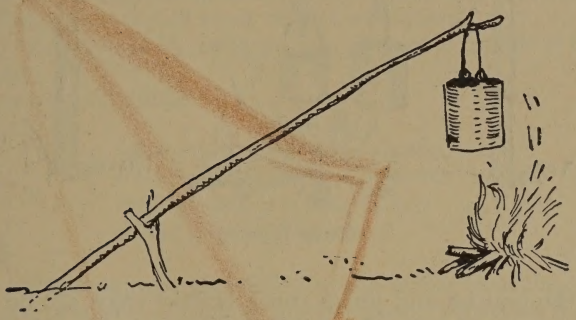
Your first care, then, is to provide for a small fire and prevent its spreading. In the autumn this may mean very elaborate clearing, or burning, or wetting of a space around the fire. In the winter it means nothing.

Cracked Jimmy, in "Two Little Savages," gives very practical directions for lighting a fire anywhere in the timbered northern part of America, thus:

"First a curl of birch bark as dry as it can be,
Then some twigs of soft wood, dead, but on the tree,
Last of all some pine-knots to make the kittle foam,
And there's a fire to make you think you're settin' right at home."

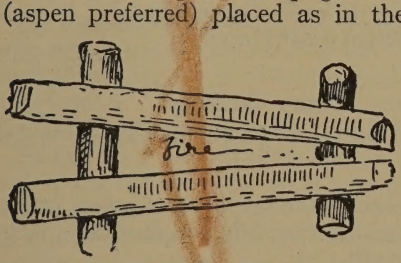
If you have no birch bark, it is a good plan to shave a dry soft-wood stick, leaving all the shavings sticking on the end in a fuzz, like a Hopi prayer stick. Several of these make a sure fire kindler. Fine splinters may be made quickly by hammering a small stick with the back of the axe.

In the case of a small party and hasty camp, you need nothing



but a pot hanger of green wood for a complete kitchen, and many hundreds of times, on prairie and in forest, I found this sufficient.

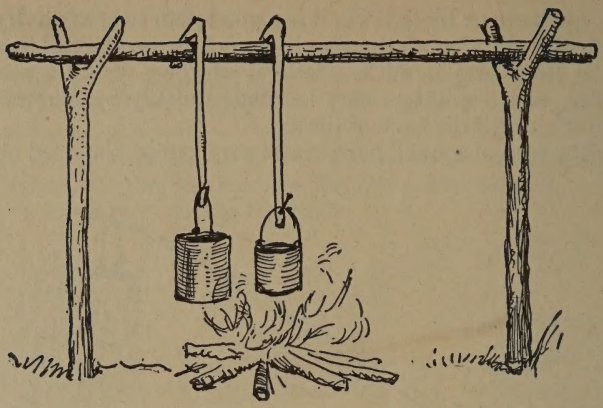
A more complete camp grate is made of four green logs (aspen preferred) placed as in the illustration. Set the top logs 3 inches apart at one end, 10 inches at the other. The top logs should be flattened in the middle of their top sides—to hold the pot, which sits on the opening between the top logs. The fire of course is built on the ground, under the logs. Sometimes stones of right size and shape are used instead of the logs, but the stones do not contribute anything to the heat and are less manageable.



Green Log Grate

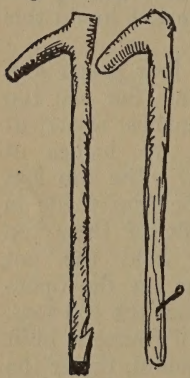
In addition to this log grate, more elaborate camps have a kitchen equipped with a hanger as on next page, on which are pot hooks of green wood.

In wet weather an axeman can always get dry wood by cutting into a standing dead tree, or on the under side of down timber that is not entirely on the ground.



Camp Kitchen

On the prairies and plains, since buffalo chips are no more, we use horse and cow chips, kindled with dry grass and roots of sage-brush, etc.



To keep a fire alive all night, bank the coals: i.e., bury them in ashes.

Always put out the fire on leaving camp.
It is a crime to leave a burning fire.
Use buckets of water if need be.

Camp Cookery

See Horace Kephart's "Book of Camping and Woodcraft."

In most camps the staples are: cocoa, coffee (or tea), bacon, game, fish, and hardtack, bannocks or biscuit.

To make these take

1 pint flour,
1 teaspoonful of baking-powder,
Half as much salt,
Twice as much grease or lard,
With water enough to make into paste, say one half a pint.

When worked into smooth dough, shape it into wafers half an inch thick and three inches across. Set in a greased tin, which is tilted up near a steady fire. Watch and turn the tin till all are browned evenly.

For other and better but more elaborate methods of making bread, see Kephart's book as above.

For cooking fish and game the old, simple standbys are the frying-pan and the stew-pan.

As a general rule, mix all batters, mush, etc., with cold water, and always cook with a slow fire.

When going into camp not far from home some think it a good plan to take a cold roast of beef with them.

Soup stock should be made the first days of every bit of bones and meat.

There is an old adage:

Hasty cooking is tasty cooking.
Fried meat is dried meat.
Boiled meat is spoiled meat.
Roast meat is best meat.

This reflects perhaps the castle kitchen rather than the camp, but it has its measure of truth, and the reason why roast meat is not more popular is because it takes so much time and trouble to make it a success.

Cooking Without Utensils

We sometimes call it "hatchet cookery," because the cook is supposed to begin with nothing but a hatchet. To cook a good, toothsome meal with such a meagre outfit is good proof of a skilled Woodcrafter. Let us assume that you have meat, fish, potatoes, flour, and baking-powder, in addition to your hatchet.

To Boil the Fish. Make a big fire and in it put twenty stones each as big as two fists. Near by, dig a hole a foot wide and two feet deep. Get a flat hardwood board, a foot long and six or eight inches wide. Clean and lash the fish onto this board, with a grass, rush, bark, or root—binding every inch or more; or else make a little basket lid of rushes, spruce roots, etc., lay that on the fish and bind all to the board. This is your plank. Do not use pine or any gummy wood for this, as it gives the fish a bad taste.

When the stones in the fire are red-hot, roll some into the hole till it is filled up eighteen inches. Then put in a layer of small *cold* stones, then a layer of grass; now lay your planked fish on this upside down, that is, with the fish under the board. Cover all with a wad of fresh grass and, lastly, with two or three inches of clay. Make a little hole at one side and pour into that about

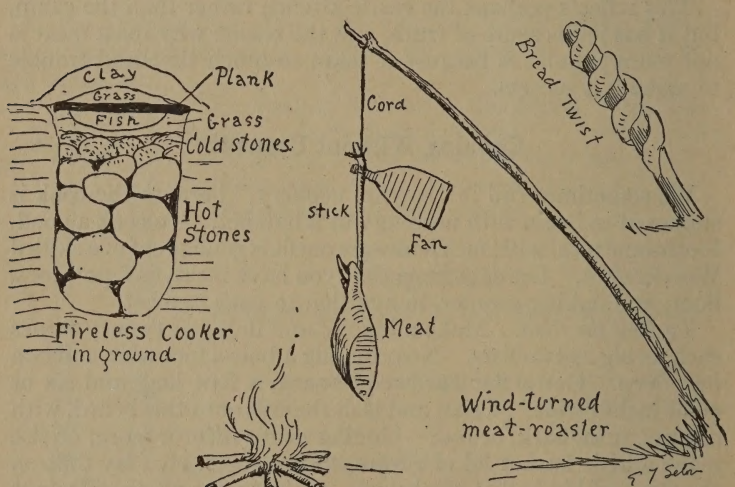
a bucket of water. Close up the hole, cover all tight and leave for half an hour to an hour. Open cautiously, carefully keeping the clay from the fish. Turn the plank and remove the binding. The fish will be found beautifully cooked.

Potatoes take three times as long to do in this way.

To Broil. To broil fish, game, or bacon is easy if one make a hot fire, then expose a level bed of coals, fan it once with a hat or board to remove the ashes from the top of the coals, then drop the meat to be cooked right on the coals. It will broil in a minute or two. Turn it over with a stick and the operation will be quickly completed.

Toasting is easily done if we cut a forked stick of strong green wood and hold the bread over the fire.

Roasting. A good meat roaster is made by hanging the meat in a green wood hook made with a broad wooden fan set in a split near the top and above that a heavy cord to hang it with. Thus the wind, striking the fan, turns the meat and twists the cord



until it is tight; then it unwinds, but, owing to the weight of the meat, goes past the dead point and winds itself up the other way, and so on. This is an especially satisfactory roaster when there is wind.

Bread. The test of all is the making of good bread without utensils. Some make a hole in the ground for a breadpan and line it with a corner of a mackintosh. But most old timers use

the top of the flour in the sack itself. Simply spread the mouth wide open and securely level and proceed as though it were a pan.

To make a small loaf of bread, put a teaspoonful of baking powder on about a pint of flour, add a lump of butter or grease as big as a walnut and a dash of salt. Mix them together, then add about a cupful of cold water, work it into the flour that has been prepared. It will not strike into the flour below. Thoroughly work up the mass of dough and now it is ready for treatment as bread twist, or as cakes.

Bread Twist. Cut a smooth, round stick two or three inches through and three feet long, point one end, drive it in the ground leaning toward the fire at a place just a little hotter than you can hold your hand. Work the dough into a long roll and twist it like a vine around the stick. After ten minutes, turn the stick around in the hole, so as to give the full heat to the other side, and so on; in half an hour, the bread should be brown and finished.

Cakes. Select a broad, flat, thin stone; heat it at the fire until it is too hot for your hand to touch; brush it clean, work the dough into cakes half an inch thick and three inches across, put them on the flat stone and prop it up near the fire as steeply as possible, so long as they do not fall off, and roast till pale brown all over.

Mud Baking. This is used for fish and game. Clean the food thoroughly, enclose it in a coat of mud at least an inch thick, bury it in the ashes of the fire and keep a brisk fire on it for thirty to sixty minutes, according to the size of the meat or fish to be roasted.

Potatoes can be baked in the ashes without any mud. They take much longer than meat.

The Gee-String Camp

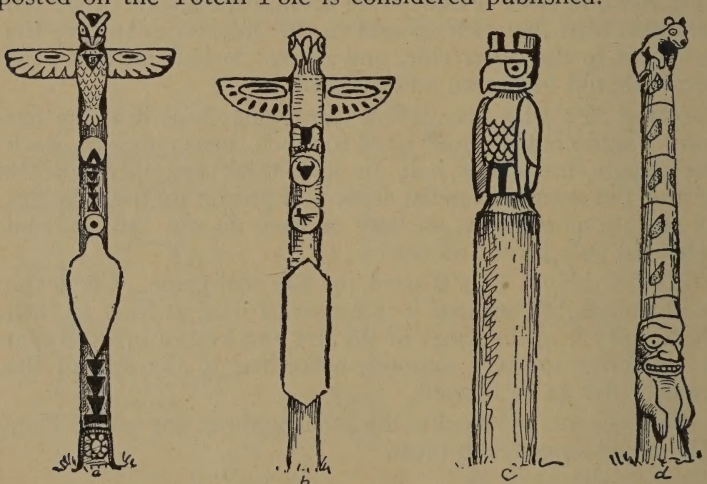
Whenever complete isolation from summer resorts or mixed company make it permissible, we have found it well to let the fellows run part of each day during warm weather, clad only in their shoes and their small bathing trunks, breech-clout, or gee-string. This is the Gee-String or Indian Camp. Its value as a daily sun bath, a continual tonic, and a mentally refreshing hark back to the primitive, cannot be overestimated.

Camp Horn

I wish every camp would get a good camp horn or Michigan lumberman's horn. It is about four feet long, has a six-inch bell-mouth, and is of brass. Its sounds are made by mouth, but a good player can give a tune as on a post horn. Its quality is wonderfully rich, mellow, and far-reaching, and it can be heard for three or four miles. It is a sound to stir the echoes and fill the camp with romantic memories.

Totem Pole

Directly opposite the Chief's throne, on the outer edge of the circle, should be the Totem Pole. This is always set up as soon as possible in all permanent camps. Its purpose is, 1st, to typify the movement; 2d, to display the Totems of the Tribe, 3rd, to serve as a place of notice. Any document posted on the Totem Pole is considered published.



a. Totem Pole of the Becket Tribe (15 feet high)
b. of Flying Eagles
c and *d*. from Niblack's West Coast Indians, Eagles and Bears

Beds

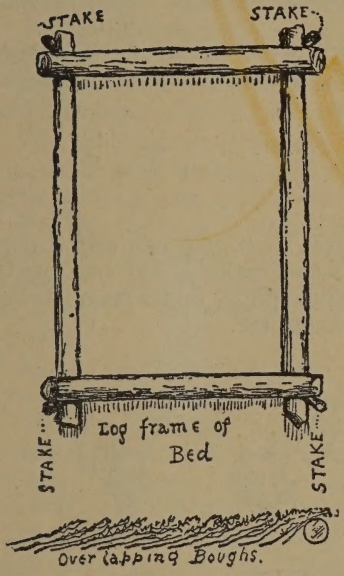
Of all things, the camper's bed is the thing most often made wrong, and most easily made right, when one knows how; and of all things comfort at night is most essential.

Every dealer in camp outfits can produce an array of different camp beds, cots, and sleeping bags, that shows how important it is to be dry and warm when you sleep.

The simplest plan is the oldest one—two pair of blankets and

waterproof undersheet on a neatly laid bed of evergreen boughs, dry leaves, or dry grass. The ideal way of laying the boughs is shown in the figure below.

When I can't get grub of the Broadway sort,
I'll fatten on camper's fare,
I'll tramp all day and at night resort
To a bed boughed down with care.



But there are few places now in eastern America where you are allowed to cut boughs freely. In any case you cannot take the bough bed with you when you move, and it takes too much time to make at each camp.

Sleeping bags I gave up long ago. They are too difficult to air, or to adjust to different temperatures.

Rubber beds are luxurious, but heavy for a pack outfit, and in cold weather they need thick blankets over them, otherwise they are too cool.

So the one ideal bed for the camper, light, comfortable, and of wildwood stuff, is the Indian or willow bed, described on p. 232.

Water, or the Indian Well

If there is a swamp or pond, but no pure water at hand, you can dig an Indian well in half an hour. This is simply a hole about 18 inches across and down about 6 inches below water-level, a few paces from the pond. Bail it out quickly; let it fill again, bail it a second time, and the third time it fills, it will be full of filtered water, clear of everything except matter actually dissolved.

It is now well known that ordinary vegetable matter does not cause disease. All contamination is from animal refuse or excreta, therefore a well of this kind in a truly wild region is as safe as a spring.

Mosquitoes, Black Flies, Etc.

If you are camping in mosquito or fly season, the trip may be ruined if you are not fully prepared.

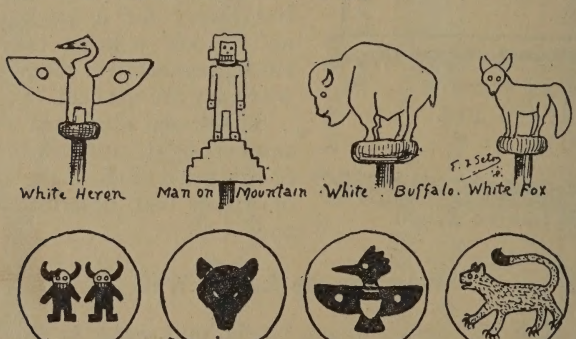
For extreme cases, use the ready-made head-nets. They are hot, but effectual. You can easily get used to the net; no one can stand the flies. In my Arctic trip of 1907, we could not have endured life without the nets. Indians and all wore them.

Of the various dopes that are used, one of the simplest and best is Colonel N. Fletcher's, given in Kephart's "Book of Camping and Woodcraft":

"Pure pine tar . . . . . 1 oz.
Oil pennyroyal . . . . . 1 oz.
Vaseline . . . . . 3 ozs.

"Mix cold in a mortar. If you wish, you can add 3 per cent. carbolic acid to above. Some make it 1½ ozs. tar."

Most drug shops keep ready-made dopes under such names as Citronella, Repellene, Lollakapop, etc.



How to Make a Totem

A general request for light on Totems and Totem-making has called for an article on the subject.

A Totem is the emblem of a man, a group of men, an animal, or an idea. It is perhaps the earliest form of signature that any man used. It reached its highest development in the form of heraldry.

Of course, a trained artist who has specialized in decoration is needed to get the best style of Totem; but most of us can make one passably good by adhering to certain rules:

1st. The Totem is a symbol, not a portrait.

2d. The simplest forms are the best.

3d. Any approach to realism or photography is sure to result in a failure.

4th. Beauty is obtained chiefly by beautiful colors.

5th. Printing or letters are always ugly; avoid them altogether, if possible.

6th. Avoid any appearance or machine work—the varied and wavering touch of handwork is always better.

7th. The Totem is usually meant for display at night or against a dark background; therefore it should be either in light colors, or on a light background.

For our purpose there are two principal kinds of Totems: the silhouette carved out of wood, etc., and the emblem on the shield. If the design is to be in dark colors, it is better on a shield. If something white, silhouette is more manageable.

Some complicated designs like Lightning or King-snake can scarcely be made in silhouette; they must be on a shield.

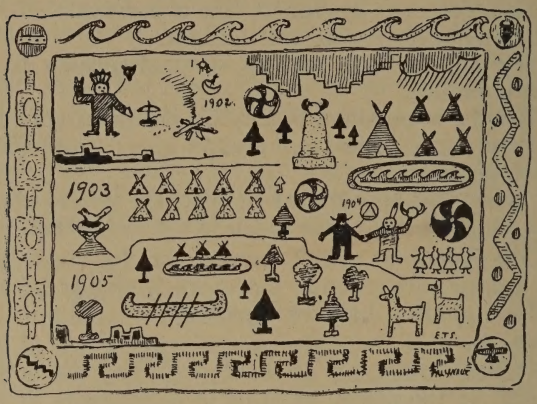
The shield should be 12 or 14 inches across and when finished should everywhere have the marks of knife, never of saw. The exact mathematical circle of a scroll saw with its sharp edges is always ugly; whittle them off.

The pole to carry the shield should be about 6 or 7 feet high, so as to hold the Totem well above the heads of the men; and it should never be a boughten, factory-turned, straight-edged, cross-grained rake handle, as one sometimes sees, but a real sapling cut in the woods, rather straight, peeled and trimmed smooth of knots and limbs, but showing all the little variations of surface and thickness that tell us it is the real thing, with the real grain running along the main line and therefore strong.

I have added a number of totems to show the two types, silhouette and shield. Note that while *White Buffalo, White Heron* or *White Fox* may be best in silhouette, the same animals in any other color are best on a shield of which the background is white. The main thing is to have it clearly visible in the dim light of a Council fire, with the dark woods as a background.

The Indoor Council Ring

Wall Hangings



Most of our Councils will be indoors.

In the next article I give directions for turning a grocery box into a successful Council seat. Three other important things will complete the possibility of Woodcraft atmosphere:

The Council Rock, or Chief's seat.

The Fire, or its symbol in the center.

The Wall Hangings to hide discordant surroundings.

Because it is least understood, I shall treat the last of these first. There is one simple and effective way of turning the saddest and ugliest of interior walls into a thing of beauty and pleasant remembrance.

Get enough common, cheap, rough burlap to cover the walls all around from a line 1 foot from the floor to a line 7 feet from the floor, that is 6 feet wide, and in sections 9 feet long.

The burlap should be of the ordinary yellowish gray, without holes, but as coarse grained as possible.

This is to be decorated with painted designs, but first let me turn aside and lay down some principles for its decoration.

1st. Never use photographs or realistic pictures in this decoration. No one, not even the cleverest artists, can make them successful.

2d. Always use symbols. No one can wholly fail with these. They have furthermore an appeal to the imagination; they set it free to soar, while the photographs chain it to the ground.

3d. Use very few and very quiet colors in flat tints. Some of the best have been done in black, white, or red, with the ground color of the burlap everywhere showing through. Some have added a little pale turquoise blue. A great colorist could use the whole box with advantage, but let the beginners stick to three, or at most four, low tone colors. Oil colors thinned with kerosene are best.

4th. Do not try to make the tapestry—for that is what it is—one scene or a picture, or anything but a record. Don't worry about perspective or any of the limitations of realism. Make it a quiet-colored record in symbols, of events that belong to your tribe, or Council Ring, and ever keep this strongly in view—imitative realism will be certain to fail, symbolic record certain to succeed.

With this in mind, let us by way of illustration design a tapestry, to record the history of a certain tribe.

It was founded in 1902, first sun of Song moon, by Chief Black Wolf, who lighted their first fire with rubbing sticks. Pine trees and a storm over them are shown as well as four lodges besides the big lodge.

In 1903 a robin built a nest on their big teepee. In 1904 it formed an alliance with the Y. M. C. A. In 1905 four of its members made a big canoe trip and two deer came into camp.

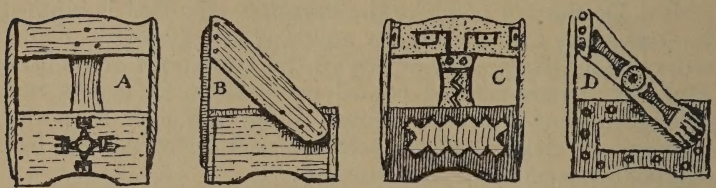
Many more events are recorded, but can be read only by those who know the history.

Four different styles of border are illustrated, but it is better to keep it the same all around.

A Woodcraft Stool

Many Woodcraft groups that meet in a room, for lack of a real Council Ring, are put to it for something that will give the picturesque touch, the real Woodcraft flavor, to the circle.

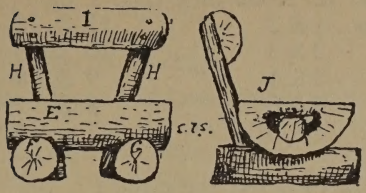
One of the simplest, most satisfactory ways is for each to make his own seat in the council. Assuming that you are in town, and have little to help in the way of tools or materials, the quickest way is for each to get a strong grocery box about 8 or 10 inches high (not over 12 for the inner circle). Draw out all unnecessary nails, smooth it, remove all printing or papers, round the corners. Save the lid, as it will furnish the back pieces. Round off all sharp corners, and vary all straight lines, using a knife, but no sand paper. Finally paint it with any good Woodcraft device *in symbols,* never in realistic pictures; and never try to hide the structure.



If the wood is cleared off, it will do for the ground color; then the pattern may be put in with black, blue, red, or brown, using one or two, or perhaps three colors. The owner's tribe totem should appear somewhere.

Cuts A and B show one of the stools that I made in 1½ hours, then took 1½ hours to paint it (C and D); total, three hours.

Woodcraft is "What you have, where you are, right now." Therefore, if nothing but grocery boxes are at hand, use them; but out in camp one can get the branches of chestnut or pine, and for these a different pattern is recommended. The simplest is the old log stool. Get a chestnut, pine, or other soft wood log, about 12 inches thick and 16 inches long (E). Split it in or near the middle, with an ax. Now get two smaller logs, each about 6 inches thick and 15 inches long (F and G). Notch the big log so that it sits solid on them and can be nailed there.



Two limbs each 3 inches thick and 20 inches long (H, H) nailed on to both under-log and seat, form uprights to which the back may be nailed (I).

This forms a very strong seat (J) and may be decorated as in previous sketches.

Indian Tweezers

Oftentimes a camper may need a pair of tweezers or forceps to pull out a thorn or catch some fine end. If he happens to be without the real thing, he can supply the place with those of Indian style—these are simply a small pair of clam-shells, with edges clean and hinge unbroken.

The old-time Indians had occasionally a straggly beard. They had no razor, but they managed to do without one. As a part of their toilet for special occasion they pulled out each hair by means of the clam-shell nippers.

Scientific Sun Dial

The spacing can best be done by actually registering the course of the sun's shadow during the entire day, making sure that the pointer is constantly pointed to the north.

More scientific ways of ascertaining the angles between the lines may be used if desired; for instance, such as are given on page 81 of Professor Jacoby's "Astronomy" or on page 151 of Volume 8 of the Encyclopedia Britannica.

However, there is no necessity for those living in the latitude of New York City to use any of the above methods, as the following angles have been worked out and tested and will be found to be approximately correct:

Between	Hr. 12	Noon	and	Hrs. 1	or	11—10	degrees
"	Hrs. 1 & 2	"	"	11	&	10—11	"
"	" 2 & 3	"	"	10	&	9—12½	"
"	" 3 & 4	"	"	9	&	8—15	"
"	" 4 & 5	"	"	8	&	7—19	"
"	" 5 & 6	"	"	7	&	6—22½	"

Total from 12 to 6 (¼ the circle) - 90 degrees

The angle between hrs. 6 and 7 P. M. (likewise between 5 and 6 A. M.) is also 22½ degrees, as the night hour-lines are prolongations of the day hour-lines.

For boys and girls who might have difficulty in determining angles by degrees, the following thumb rule for the locality of New York City will be found useful:

Have the quarter circle from 12 to 6 o'clock divided into six unequal parts, the smallest sector being next to 12 o'clock and the other sectors uniformly increasing in size so that the largest is next to 6 o'clock. The smallest angle should be 1/9 of the quarter circle, and the largest angle should be about ¼ the quarter circle.

Bear in mind that the entire dial must be symmetrical in two ways; that is, the A. M. and P. M. halves of the dial are symmetrical, also the day-time and night-time halves are symmetrical (insofar as the sun shines before 6 A. M. and after 6 P. M.). This double symmetry is true in any latitude or longitude; hence the importance of affixing the pointer at the *center* of the dial, its upper edge meeting the surface of the dial on the straight line extending across from 6 A. M. to 6 P. M.

When the dial has been constructed by any of the above methods, put it in the sun and do not be surprised if it does not register the same time as common clock time. It will probably be a few minutes ahead or behind it even if accurately made, as for astronomical reasons too complex for explanation here the sun is irregular in its apparent movements. To ascertain our railroad time there would have to be convenient to hand the following memorandum:

Dec. 23d Dial Correct.
Feb. 15th Dial Slow 15 minutes.
April 15th Dial Correct.
May 15th Dial Fast 4 minutes.
June 15th Dial Correct.

Aug. 1st Dial Slow 6 minutes.
Sept. 1st Dial Correct.
Nov. 1st Dial Fast 16 minutes.

A further allowance would have to be made if the location does not happen to be on the standard meridian from which clock or railroad time is taken. For instance, New York City lies one degree east of the standard meridian for Eastern time, hence a further adjustment would have to be made due to the fact that the sun is thus 4 minutes faster than it would be on the exact meridian. The variation of any other locality can be calculated similarly, allowing 4 minutes fast for each degree the place lies east of its standard meridian; similarly the dial will be slow if its locality is west of its meridian.

If the hour-lines are originally laid out on the dial by the practical process of noting the movement of the sun's shadow hour by hour, then it is preferable either that this be done at one of the times during the year when sun-time and clock time are approximately identical or that proper allowance computed from the above table be made; otherwise it is easy to see that a variation from clock time rising at times to a maximum of half an hour might result.

Another point which is added for the sake of completeness rather than its importance, is the variation between morning and afternoon time caused by the width of the sun itself, as it covers half a degree in the sky. The light from the preceding edge of the sun is in the morning a minute ahead of what it would be were the sun but a point in the sky. Likewise the light lags a minute behind in the afternoon. These trivial variations can of course be disregarded.

Caution: Do not attempt to locate the north by following literally a magnetic needle. In New York City the needle points ten degrees to the west of the real north. Moreover, a compass is apt to be affected by surrounding iron or steel objects such as a steam radiator. The north pole is a much more accurate guide although it at times varies a degree from the true north. For the information of those living in New York City it is convenient to know that the up and down avenues of the city (such as Fifth Avenue and Amsterdam Avenue) point east of north at an angle of about 30 degrees. It is better to have the pointer as thin as possible, as if it has any substantial thickness the eastern and western

halves of the dial markings will have to be separated by that width. This is because the sun registers with one edge in the morning and the other edge in the afternoon. Also do not forget that it is always the side of the shadow cast by the *upper* side of the pointer which is to be regarded in noting the time.

Sun dials are an ornament to any garden. New York residents can find one quietly at work in the flower gardens at Van Cortlandt Park. Chronic pessimists would do well to ponder the inscription on King Edward's sun dial:

"Let others tell of rains and showers,
I only record the sunny hours."

CLARKE G. DAILEY.

*To make a more scentifically accurate Sundial, see Collins "Book of the Stars."

The Watch as a Compass

In case one desires to locate north and has no compass, a watch may be used.

Point the hour hand to the sun. In the morning, halfway between the outside end of the hour hand and noon is due south; in the afternoon, one must reckon halfway backward; for instance, at 8 A. M., point the hour hand to the sun and find the place halfway to noon. It will be at 10, which is due south. At 4 o'clock, point the hour hand at the sun and reckon halfway, and the south will be found at 2 o'clock.

The reason "halfway" is used, is that, while the sun makes a course of 24 hours, the clock makes a course every 12 hours. If our timepieces were rational and had a face showing 24 hours, the hour hand pointed to the sun would make 12 o'clock, noon, always south.

If the sun is clouded and you cannot see it, get into a clear open space. Hold your knife point upright on the watch dial, and it will, unless the clouds are very heavy, cast a faint shadow, showing where the sun really is.

A Home-made Compass

If you happen to have a magnet, it is easy to make a compass. Rub a fine needle on the magnet; then on the side of your nose. Then lay it gently on the surface of a cup full of water. The needle will float and point north. The cup must not be of metal.

Lights

For camp use, there is nothing better than the Stonebridge folding lantern, with a good supply of candles. A temporary torch can readily be made of a roll of birch bark, a pine knot, or some pine-root slivers, in a split stick of green wood.

Hunter's Lamp

A fairly steady light can be made of a piece of cotton, or twisted rag stuck in a clam shell full of oil or melted grease. An improvement is easily made by putting the cotton wick through a hole in a thin, flat stone, which sets in the grease and holds the wick upright.

Another improvement is made by using a tin instead of the shell. It makes a steadier lamp, as well as a much larger light. This kind of a lamp enjoys wide use and has some queer names, such as slot-lamp, grease-jet, hunter's lamp, etc. (See cut on p. 208.)

To win the honor that is allowed for it the hunter's lamp must be made entirely of wildwood material and without the use of whiteman's tools.

Some have protested that this is impossible today or unlawful at certain times. "How," they ask, "are you going to get your oil—even the small spoonful that is needed?"

The answer is: Any bird, beast or fish has in it oil that is easily rendered out by one or other of the ordinary modes well known in the kitchen—either by boiling the flesh and skimming off the oil as it comes to the top, or by letting it slow roast on a couple of sticks across a pan, so that the hot grease is secured as it drops. A cat-fish, a crow or a rat will, under such treatment, surrender enough oil for a big lamp, while a woodchuck will give enough for a score or two.

Nevertheless, Woodcrafters are unwilling to sacrifice even these creatures of doubtful reputation, so the Council has decided to allow the use of any animal or vegetable oil that can be obtained in the house, but of course, not kerosene or its kin.

The simplest oil-holder is a big clam shell, and the easy and natural wicker-holder is a small clam shell with a hole bored in it.

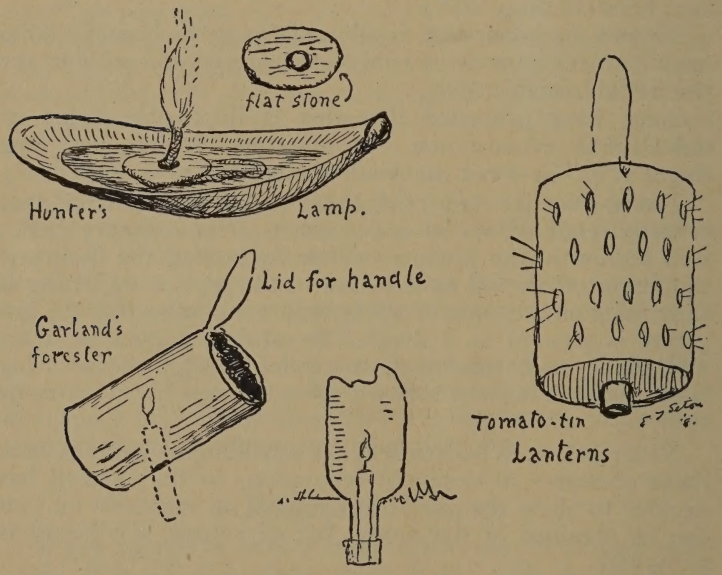
"But how," exclaims the Wayseeker, "are we to bore the hole without forbidden tools?" Very easily. Rub the sharp rounded bump of the little shell (that on the outside, next the hinge) up and down many times on a flat but gritty stone. In two or three minutes, a hole is worn through, which is easily enlarged or shaped by turning a sharp flint point in it.

The wick of truly wild material has puzzled many who assumed that they might use a cotton rag. Silk in the pod of a milkweed will be found perfectly satisfactory, as is also the bark of the Indian hemp or dog-bane.

Last week I saw one of these silkweed wicks in a clam shell lamp that burned clearly and steadily for three hours.

Woodman's Lantern

When nothing better is at hand, a woodman's lantern can be made of a tomato can. Make a big hole in the bottom for



the candle, and punch the sides full of small holes, preferably from the inside. If you have a wire to make a hanger, well and good; if not, you can carry it by the bottom. This

lets out enough light and will not go out in the wind. If you want to set it down, you must make a hole in the ground for the candle, or if on a table, set it on two blocks. (Cut on page 219.)

Another style is described in a recent letter from Hamlin Garland:

"Apropos of improved camp lights, I had a new one 'sprung on me,' this summer: A forest ranger and I were visiting a miner, about a mile from our camp. It came on dark, pitch dark, and when we started home, we could not follow the trail. It was windy as well as dark, and matches did very little good. So back we went to the cabin. The ranger then picked up an old tomato can, punched a hole in the side, thrust a candle up through the hole, lighted it, and took the can by the disk which had been cut from the top. The whole thing was now a boxed light, shining ahead like a searchlight, and the wind did not affect it at all! I've been camping, as you know, for thirty years, but this little trick was new to me. Perhaps it is new to you."

Still another style, giving a better light, is made by heating an ordinary clear glass quart bottle pretty hot in the fire, then dipping the bottom part in cold water; this causes the bottom to crack off. The candle is placed in the neck, flame inside. and the bottle neck sunk in the ground.

Knife and Hatchet or Whittling and Chopping

If I were marooned on an island or left alone in the wilderness, and had the choice of but one weapon to take along, I should take a good knife. If I were allowed two, the second would be a hatchet.

With these two one can make most of the things needed for securing food or building shelters.

The Northern Indians are probably the best whittlers in the world. They use a curious curved knife called the crooked knife. It is made of an old file curled up at the point so it can cut a narrow groove. With such a knife a Chipewyan Indian can make bow, arrows, traps, snowshoes, canoe, and wigwam—as well as clothing, his whole outfit complete; a good crooked knife, therefore, is a fair start in life for an industrious Indian.

Rules for Using a Knife

In whittling, *always assume that the knife is going to slip*, therefore, arrange so it can do no damage when it does slip.

For this reason, it is usual to make a beginner whittle *away from himself*, but that is not always safe. Indeed, all the best whittlers in the world, including Northern Indians, Farriers, Wagonmakers, etc., whittle *toward themselves*, with the hand held palm up, the knife blade at the little finger side, using the pull of the arm instead of the push, thereby getting more power and better control. But this is sure, you should *never whittle toward the hand* that is holding the wood.

Always keep your knife sharp. It is a sign of a tenderfoot to have a dull knife, and of a trained Woodcrafter to have a keen one.

To keep a knife sharp, it must be a good piece of steel and you must know how to sharpen it. The only way to get a good blade is to go to a good maker and pay a good price. The fancy knives that are corkscrew, toolchest, bootjack, and whistle all combined, are seldom of good steel.

Old-timers prefer a *white*-handled knife as it is more readily found if dropped on the ground or in the water.

The blade cannot be kept in good condition if used for anything but a wood cutter. Therefore, do not cut nails, metal, or softwood knots (especially hemlock knots) with it.

Never stick the blade in the fire. That would draw the temper and spoil the knife.

Do not abuse your knife by using it for a hammer, wedge, screwdriver, or pry.

Carry a little whetstone or else a small file to keep your knife in good shape.

A pocket or shut-up knife is the only style worth carrying. The hunting knife or dagger has not enough use to-day to make it worth while.

It is a proof of a good whittler if one can make half a dozen firelighters in succession. A firelighter or fuzz-stick (see illustration) is a stick of soft wood about an inch thick or six or eight inches through, shaved into thin slivers which are still on the stick; that is, are one solid piece at one end and all thin slivers at the other. This can only be done if you have a sharp, strong knife, a well-selected piece of soft wood without knots in it, and a steady hand. Provided the wood is good, the firelighter is perfect if not a sliver is loose or drops off.

Use of Hatchet

A good camper is known by his hatchet; if it is always sharp, and kept muzzled when travelling, the owner knows his business.

Most of the knife rules apply equally to the hatchet.

Never try to break a stone with a hatchet or let the hatchet be driven into a log by striking its back with another hatchet or anything of metal; use a wooden maul if it is necessary to drive the hatchet, as in splitting a stick.

If you are going to hew a piece of timber with a hatchet, always draw a line first to guide you.

If you are going to point a stake, make it a four-sided point, cutting sides No. 1 and No. 3, No. 2 and No. 4; so that finally at any cross-section of the point it will be square.

It is a sure sign of inexperience when a camper throws his hatchet at trees, etc., to see if he can make it stick. Broken blades, broken handles, and injured trees are the inevitable result, with the large possibility of serious accident.

Use of the Axe

The hatchet has long been the emblem of George Washington, in allusion to the incident of the cherry tree. So also the axe has become an emblem of Abraham Lincoln, the backwoodsman, the railsplitter, the typical American, who used the axe to carve his home out of the wilderness.

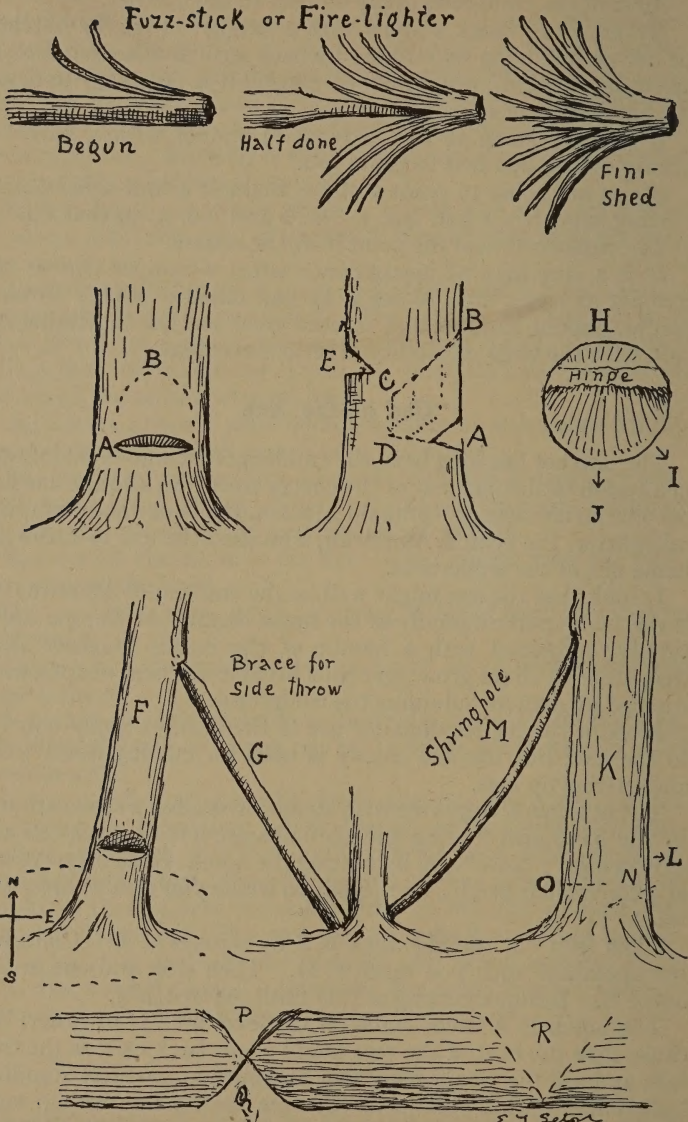
I think that the axe might well be the emblem of America, for it was composed originally of the finest metal that Europe could supply, combined with a handle of the finest, toughest stuff that America could grow; and thus became the best weapon ever wielded by man for subduing the wilderness.

Most of the instructions for use of the hatchet apply equally to the axe; but the axe chiefly is used for cutting down trees and cutting up logs.

To cut down a large tree with an axe, first clear a space around so you have firm footing and no limbs are left to catch the axe as it swings. Now begin by cutting the notch A (see illustration) at a convenient height, on the side to which you would throw the tree.

Then split out the big chips B A by strokes at B. Continue the operation until you reach C D. Then stop and cut in the notch E. Resume cutting at C D until the tree falls.

The notch E is never made on the level with D or lower, because then the butt of the tree might shoot backward as the tree falls and kill the woodsman; also, the upright part left standing between E and D prevents the tree falling the wrong way. When it matters little which way the tree goes, the notch is made much lower.



Whittling and Chopping

If the tree leans much the wrong way, you can push it over by guide or spring poles. Thus the tree F is leaning to the east, but a strong brace planted at G will make it fall to the south, if you cut the tree chiefly on the south side and leave the last uncut fibres of wood to run east and west, so they act as a hinge.

This hinge is very important at times. In the section H the tree may be inclined to fall toward I, but it is easiest to bend the hinge at right angles to its main length so the angle of the hinge will throw it toward J, if there is no wind and the tree does not lean too much.

Another well-known device is the spring pole. To make sure of the tree K falling toward L, put in a spring pole M, as long and as heavy as you can manage, force it in and have it bent down so that it is pushing against the tree. In some cases, several of these poles are put in. Two are, of course, twice as powerful as one, and when the tree is cut at the L side, the poles push it that way.

These were very familiar woodsman's tricks in my young days, but they are now largely displaced by the saw. The plan being to notch the tree at N, then saw it in at O until large iron wedges may be driven in behind the saw as it sinks into the trunk, and the tree is inevitably thrown toward N, usually in a line at right angles to the cut of the saw.

A clever woodsman can throw a tree so exactly where he wants it that he can make it drive a given stake.

A good axeman can fell a six-inch tree in a minute.

When one is cutting a sapling, it helps greatly if the tree be bent over, then one blow of the axe on the bulge of the bend will usually cut it off, whereas a dozen might be needed if the tree were not pulled over first.

To cut a large log on the ground, the axeman stands on it and cuts between his wide-spread feet; cutting half through each side and keeping the kerfs or cuts plumb, P Q (see illustration). If it were cut through entirely from one side as at R, the labor would be double, because fully twice as much wood must then be removed.

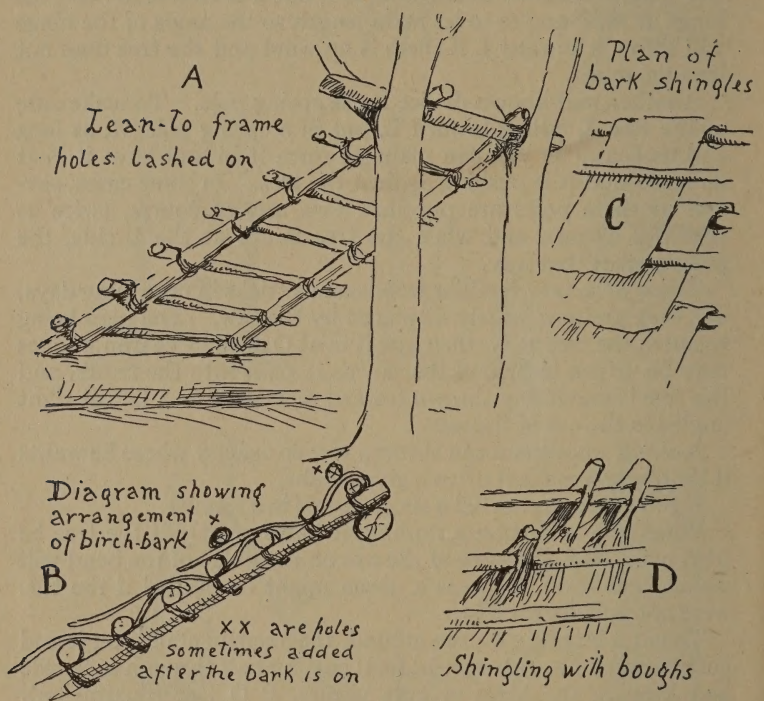
For a small log, it is easier to stand on the ground and cut more nearly on the upper side till halfway through, then roll the log half over and make the other cut.

A Waterproof Shelter of Wilderness Stuff

If you have plenty of spruce, balsam, or hemlock boughs available to furnish a roof thatch, it is easy to make a lean-to. This

consists of a frame of poles bound with roots of spruce or tamarac, or else the inner bark of the elm, tamarac, leatherwood, or pignut hickory. (See A in illustration.)

Begin at the bottom and cover them with the boughs cut twenty or thirty inches long and each one attached to the poles at D in the illustration.



If you chance to have an abundance of birch bark, it is yet simpler. Cut the birch bark as large as possible and insert a row of sheets at the bottom, brown side up, overlapping at the up-and-down joints instead of setting the bark pieces side by side as in shingling. The top row may need extra binding poles to hold the bark sheets down (XX in B). These poles are bound at their ends to the ends of the poles below them.

If grass or rushes are used, tie it in bundles and put on as with boughs. Sometimes the grass bundles are lashed separately to the upper sides of the poles with root or bark bindings.

If one happens to have a supply of clay handy, a first-class clay

roof can be made. Make the structure very strong with cross poles so close side by side that they touch each other. On them lay a few inches of grass, and cover all with the clay hammered smooth.

In each case, the ends may be filled up with the same material as the roof.

A fire in front makes of it a very comfortable dwelling.

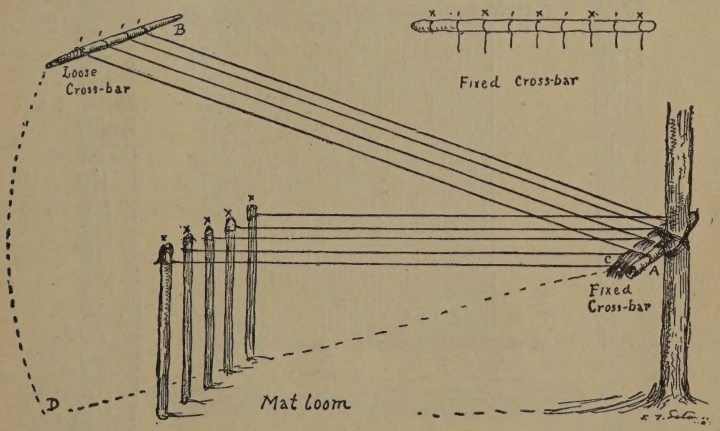
In rough, hasty work, the lashing of the poles is dispensed with; the poles being held in place by knots left projecting on the two main end supports. This answers for the clay or the bough roof, but will not do for birch bark or other shingling.

Camp Loom and Grass Mats

The chief use of the camp loom is to weave mats for the beds of grass, straw, hay, or, best of all, sedge. I have made it thus:

A 3-foot cross-bar A is fast to a small tree, and seven feet away five stakes are driven into the ground 8 inches apart, each 3 feet out of the ground.

Five stout cords are tied to each stick, and to the cross-bar,



keeping them parallel. Then, between each on the cross-bar, is attached another cord (four in all) the far end of which is made fast to a loose cross-bar, B.

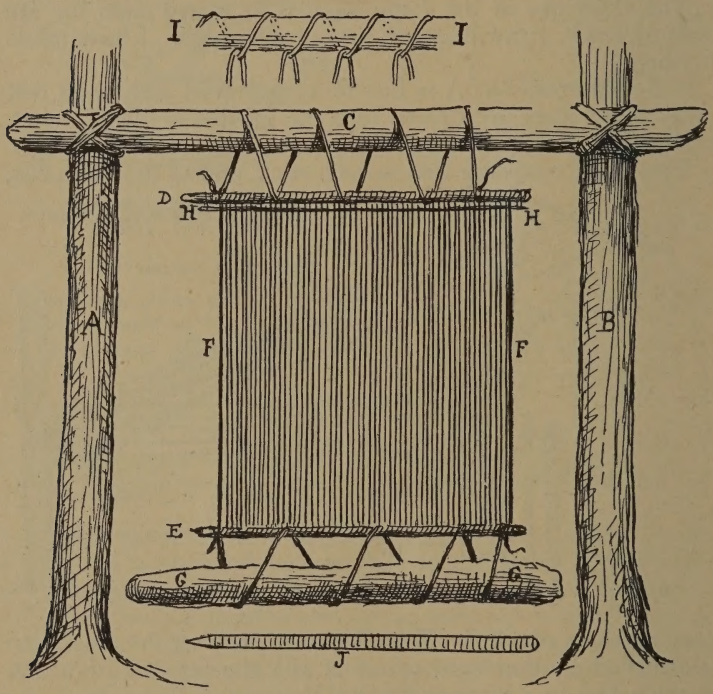
One person raises the loose cross-bar B, while another lays a long bundle of grass tight in the corner C. Then B is lowered to D, and another roll of grass or sedge is tucked in on the under side of the stake cords. Thus the bundles are laid one above

and one below, until the mat is of the required length. The cords are then fastened, the cross-bars removed, and the mat, when dried, makes a fine bed. When added to the willow bed, it is pure luxury; but lawful, because made of wildwood material.

Navajo Loom

A profitable amusement in camp is weaving rugs or mats of inner bark, rags, etc., on a rough Navajo loom.

The crudest kind, one which can be made in an hour, is illustrated below. I have found it quite satisfactory for weaving rough mats or rugs. A and B are two trees or posts. C is the cross piece. D is the upper yarn-beam, wrapped its



whole length with a spiral cord. E is the lower yarn-beam, similarly wrapped. F F are stout cords to carry the frame while the warp is being stretched between the yarn-beams. G G is a log hung on for weight. HH is a round stick fast-

ened between the yarns, odds on one side, evens on the other, to hold the yarns open until the rug is all done, but about one inch when it is drawn out.

Now, with a needle, the yarns or strings for the warp are stretched from one yarn-beam to another, as a continuous string. The exact method is shown on a larger scale in the upper figure I I. The batten or spreader J is a piece of light wood two inches wide and one half inch thick, with square edges, but thin, sharp point, and about as long as the yarn-beam.

Now, we are ready to begin. Run the batten between the yarns under the sticks H H. Then drop it to the bottom and turn it flatwise, thus spreading the yarns apart in two rows. Lay a line of soft bark, rags, or other woof in this opening on top of the batten, making sure that it projects a couple of inches at each end. Double these long ends around the strong cords FF then back along themselves. Now draw out the spreading batten and press the woof down tight.

Run the batten through alternate threads again, but the reverse way of last, and this time it goes more slowly for the lack of a guide rod.* Lay a new line of woof as above. When the rug is all finished, except the top inch or more, draw out the rod H H and fill the warp to the top.

Finally cut and draw out the spiral cords on each yarn-beam. This frees the rug, which is finished, excepting for trim and binding, when such are desired.

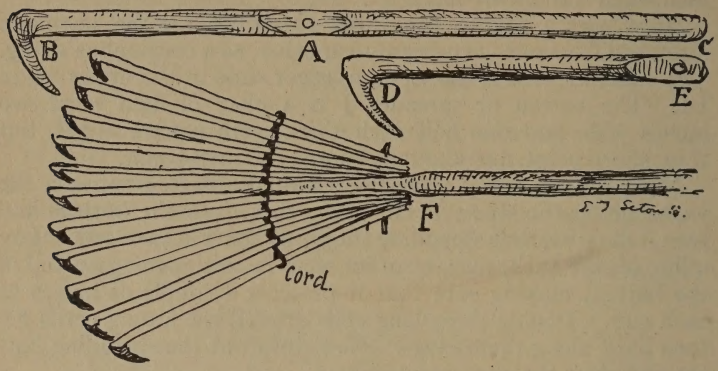
Those who want full details of the best Navajo looms and methods will find them in Dr. Washington Matthew's article on Navajo Weavers, 3d Annual Report, Bur. of Ethnology, 1881-2. Washington, 1884.

Camp Rake

A camp rake is made of forked branches of oak, beech, hickory, or other hard wood, thus: Cut a handle an inch thick B C and 4 feet long, of the shape shown. Flatten it on each side of A, and make a gimlet-hole through. Now cut ten branches of the shape D E, each about 20 inches long. Flatten them at the E end, and make a gimlet-hole through each. Fasten all together,

*This is done much more quickly by help of a heald-rod, that is, a horizontal stick as wide as the blanket, with every other strand of the warp loosely looped to it by a running cord near the top. When this rod is pulled forward it reverses the set of the threads and allows the batten to drop in at once.

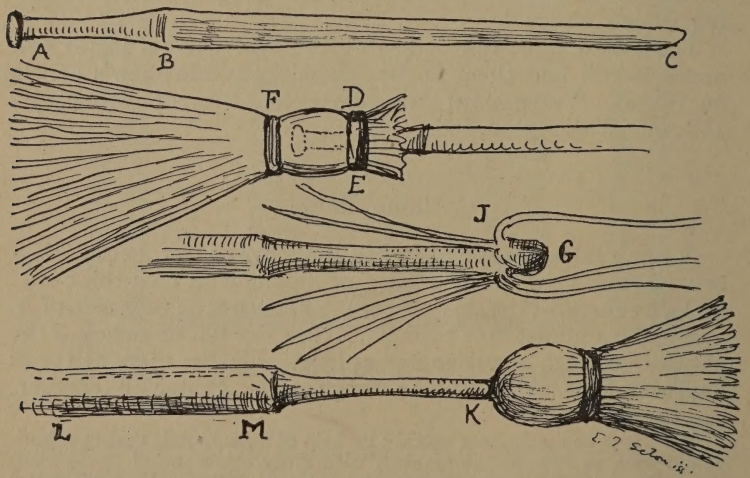
five on each side of the handle, as in F, with a long nail or strong wire through all the holes; then, with a cord, lash them together,



spacing them by putting the cord between. Sharpen the points of the teeth, and your rake is ready.

Camp Broom

There are two ways of making a camp broom. First, the twig broom. This is easily made as follows: Cut a handle



an inch thick, and shape it to a shoulder, as in A B C. Lash on birch or other fine twigs, one layer at a time, until sufficiently

thick, as D. L. Now at F, put a final lashing of cord. This draws the broom together, and binds it firmly to the handle. Trim the ends even with the axe, and it is ready for use.

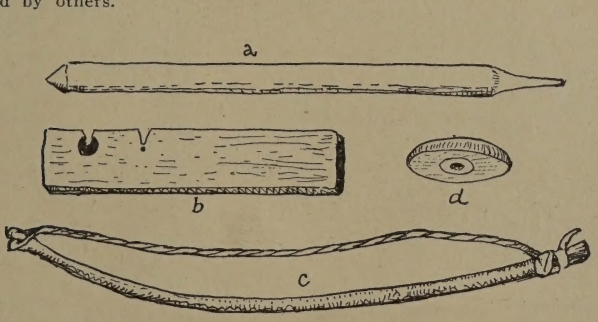
The other style is the backwoods broom. This was usually made of blue-beech or hickory. A 4-foot piece of a 4-inch green trunk is best. After the bark is removed, shavings 18 inches long are cut and stripped down, left attached at J, and bent back over the end until there is a bunch of them thick enough; when they are bound together with a cord and appear as in K. Now thin down the rest of the handle L M, and the broom needs only a little drying out to be finished.

Rubbing-stick Fire

I have certainly made a thousand fires with rubbing sticks, and have made at least five hundred different experiments. So far as I can learn, my own record of thirty-one seconds from taking the sticks to having the fire ablaze is the world's record,* and I can safely promise this: That every man who will follow the instructions I now give will *certainly succeed* in making a rubbing-stick fire.

Take a piece of dry, sound, balsam-fir wood (or else yucca, cedar, cypress, tamarac, basswood, or cottonwood, in order of choice) and make of it a drill and a block, thus:

*This was written 20 years ago; since then the record has been repeatedly lowered by others.



1. Tools for firemaking

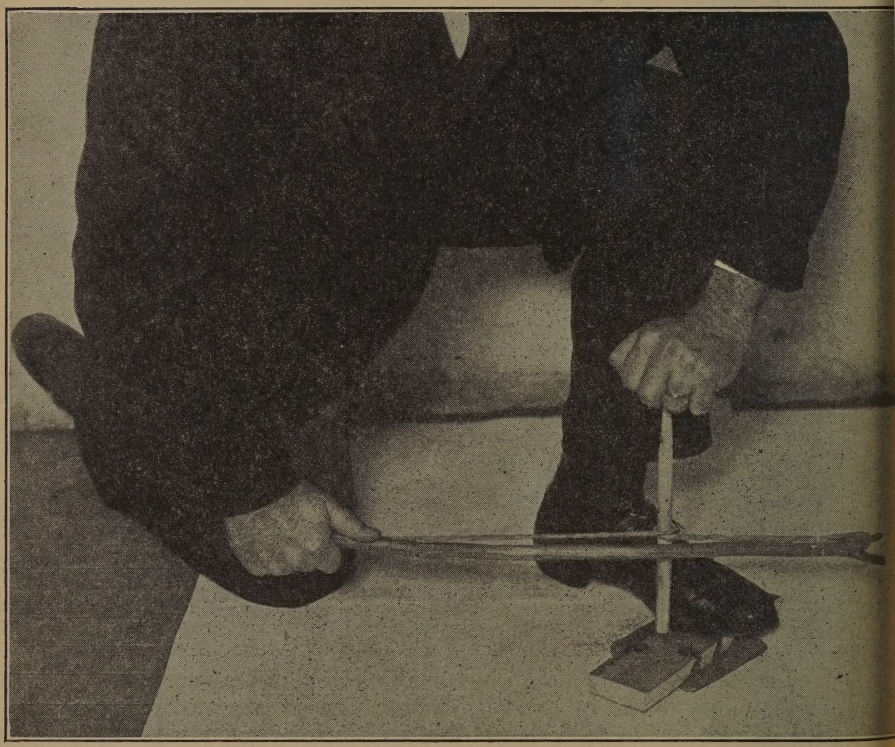
The Drill

The drill should be not more than five eighths of an inch in diameter and 12 to 15 inches long. The larger your drill, the harder you have to work. There is no use in having an

immense pile of powder to get a spark. If the drill averages five eighths of an inch in diameter, is perfectly straight, and tapers off at the top nicely, it will revolve smoothly and bring your spark quickly. The drill should be held perpendicularly and should be held solidly by the hand resting firmly against the shin bone. The drill should be placed in the bow so that the loop is on the outside of the thong away from the bow. This prevents the drill from rubbing against the bow.

Block, or *board,* two inches wide, six or eight inches long, five eighths of an inch thick. In this block, near one end, cut a side notch one half an inch deep, and near its end half an inch from the edge make a little hollow or pit in the top of the block, as in the illustration (cut 1 b).

The notch should be cut into the board deeper at the bottom than at the top, and wider from a side view at the bottom



than at the top. The narrower the notch is, while allowing the powder to drop, the better. The notch should be so cut that when the hole has been drilled, there will be just a little slit running from the side to the center of the hole through which the powder drops down. The wood must be cut smooth, or the spark may stick and not drop below. I have found it best to have the notch face me rather than have it on the other side of the board away from me. I have noticed that the average person leans his drill, which causes it to push against the outside rim of the hole and to break the side away. Usually it is better to start your hole above the notch and then open up the notch until it connects with the hole.

Tinder. For tinder use a wad of fine, soft, very dry, dead grass mixed with shredded cedar bark, birch bark, or even cedar wood scraped into a soft mass.

A meadow mouse's nest does very well for tinder. It is easy to get a number of them after the snow has gone from the wet meadows in spring time.

Bow. Make a bow of any bent stick two feet long, with a strong buckskin or belt-lacing thong on it (cut 1 c, p. 219).

Socket. Finally, you need a socket. This simple little thing is made in many different ways. Sometimes I use a pine or hemlock knot with a pit one quarter inch deep, made by boring with the knife point. But it is a great help to have a good one made of a piece of smooth, hard stone or marble, set in wood; the stone or marble having in it a smooth, round pit three-eighths inch wide and three-eighths inch deep. The one I use most was made by the Eskimo. A view of the under side is shown in cut 1 (fig. d).

The hole in the soapstone should be large enough and deep enough to hold the upper point of the drill solidly without slipping out. The socket itself should not be held in the fingers but in the palm of the hand. Never let a light muscle do what a heavy muscle can do. There is a very general tendency to let the wrist get away from the shin bone, which leaves the hand wobbling, unsupported in the air.

The Foot. The foot is placed close to the drill, with all the weight on the ball of the foot, the heel off the floor so that you can regulate the pressure by the raising and lowering of the heel.

Now we are ready to make the fire:

Under the notch in the fire-block set a thin chip.

Turn the leather thong of the bow once around the drill: the thong should now be quite tight. Put one point of the drill into the pit of the block, and on the upper end put the socket, which is held in the left hand, with the top of the drill in the hole of the stone (as in cut 2). Hold the left wrist against the left shin, and the left foot on the fire-block. Now, draw the right hand back and forth steadily on level and the *full length* of the bow. This causes the drill to twirl in the pit. Soon it bores in, grinding out powder, which presently begins to smoke. When there is a great volume of smoke from a growing pile of black powder, you know that you have the spark. Cautiously lift the block, leaving the smoking powder on the chip. Fan this with your hand till the live coal appears. Now, put a wad of the tinder gently on the spark; raise the chip to a convenient height, and blow till it bursts into flame.

N. B. *The notch must reach the middle of the fire-pit.*

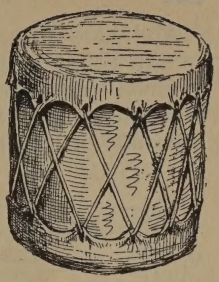
You must hold the *drill steadily* upright, and cannot do so without bracing the left wrist against the left shin, and having the block on a firm foundation.

You must begin lightly and slowly, pressing heavily *and sawing fast after there is smoke.*

The Spark. When you get your spark, hold your left hand on the board as you take your foot off, and tap with the right hand (to loosen any spark that might hang onto the notch) before lifting the board. When you put your tinder on the spark, hold it down in the back and on the sides so that you will not blow the spark away.

If the fire does not come, it is because you have not followed these instructions.

Drum


The Indian Drum

While an ordinary bought drum does very well for dancing, some tribes make their own, using a section of a hollow tree (or in some cases a small barrel) covered with untanned calf skin. It is soaked till soft, scraped clear of hair, and tightly stretched over each end of the hollow log. As it dries, it shrinks and becomes very tense, giving a good drum sound. Usually it is tuned up by warming at the fire before use.

Tom-Tom

The tom-tom is much handier than the drum, especially if one be travelling about. I have made one or two good tom-toms with a calf-skin on a hoop, but these are very apt to go soft and lose their tone.

An excellent tom-tom is easily made out of a first-class tambourine. Draw the pins that hold the jingles, remove the latter, then in their place put a wooden bead or section of elder, cut the exact right length.

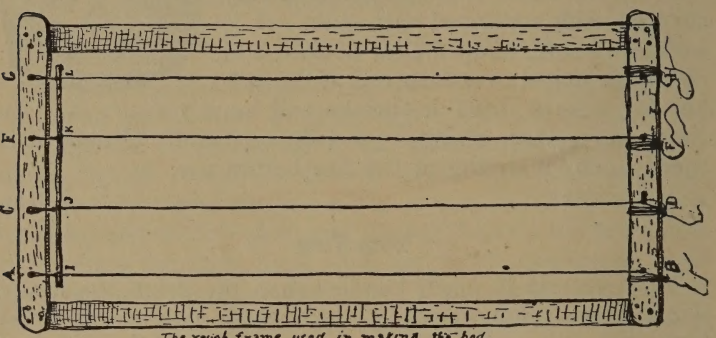
Of course, it is better Woodcraft if the tom-tom be painted in symbolic designs.

The Woodcraft Willow Bed

The only bed I know of which is light, portable, woodcrafty, made of wildwood stuff that can be got anywhere, and costing nothing but a little labor, is the willow or prairie bed used by all the Plains Indians.

This is how it is made: On your first short hike to the country go to some stream bank or swamp, and cut about seventy straight rods of red willow (kinnikinik), gray willow, arrow-wood, or any straight shoots, each about as thick as a pencil, when peeled, except one or two that are larger, up to half an inch thick; and all thirty inches long. Tie them up in a tight bundle with several cords until you get time to work them. Peel them, cut a slight notch in the butt of each rod, three-quarters of an inch from the end, and you are ready to make the bed.

And here I may say that some folks, who could not get to the country to cut willow rods, have used the ordinary bamboo fishing-poles. These are sawed up in 30-inch lengths and split to the necessary thinness; the butt end yields four or even five of the splints, the top, but one. This answers well,



The rough frame used in making the bed. one rod is in place.

Cut No. 1

and three poles furnish material enough for the bed. This is allowable because, though the stuff is not of our own woods, it is American; it grows in the Southern States. One or two fellows in town have made the bed of dowels from a furniture factory.

Now get a ball of cord, that will stand a 25-lb. pull, a ball of fine linen thread, and a piece of shoemaker's wax, to complete your materials.

If outdoors, you can stretch your cords between two small trees about seven feet apart, but it is much easier if you make a rough frame of strips or poles seven feet by three inside to work on.

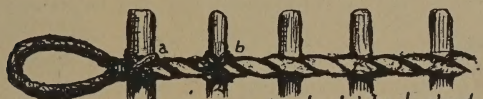
Cut four pieces of the cord, each about twenty feet long. Double each and tie a 3-inch hard loop in the middle. Twist these doubled cords and put them on a frame (Cut No. 1), fastened to nails as at A B, the surplus cord wrapped around the frame, and the others as at C D E F G and H.

Take one of the heaviest rods, say a half-inch one, for a starter. With a pointed stick, open the two strands of the twisted cord, and set the rod tight against the knots I J K L.

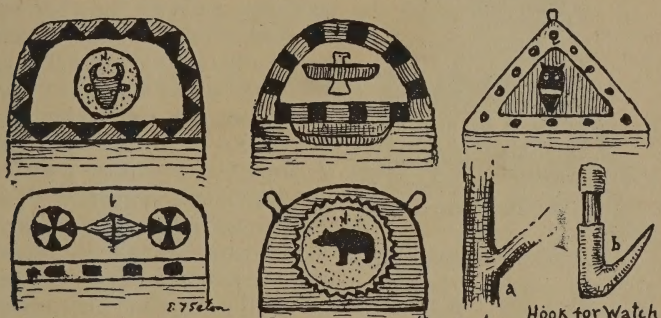
Now set a second rod in place below the first, seeing that two twists of the string are between each rod and that the

space separating them is one inch. Keep alternating butts and tops. At each point, that is at four places on each rod, make a lashing of waxed thread, holding rod and cords together (No. 2). I have seen beds with only two lashings, that is, one at each end, but four lashings is the sound and safe plan.

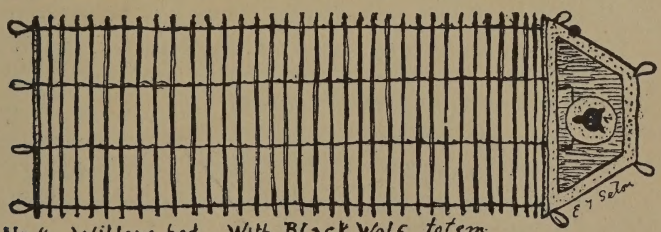
When the rod-work is six feet long, it is time to taper off.



No. 2. The style of finish. All should be lashed like a & b.



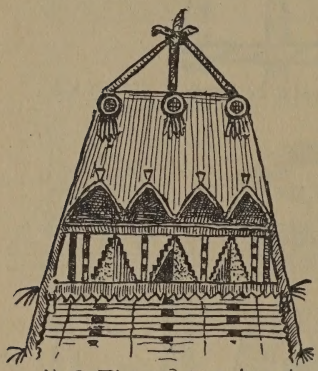
No. 3. Various heads - canvas covering the rods.



No. 4. Willow bed. With Black Wolf totem

Put in one big rod for a finish, and tie hard loops in the cords at this point. Then, using shorter rods, make a narrower part about eighteen inches high for a head. Finally, cover this head with a piece of brown khaki or canvas which should be decorated with the band's colors and totem, either painted or done in beadwork, or in colored cottons that are cut out and sewed on (Cuts Nos. 3 and 4). It is well to add also a wooden hook for one's watch (a and b, Cut No. 3) and a pocket for matches and money, etc., at night.

The Indians often elaborated these beds to a great extent when in permanent camps. Each rod was selected, perfectly straight, thinned at the butt end, to be uniform, and an extra piece added at the bed, head and foot, to curl up as end-boards. That at the head was elaborately decorated with symbols in beadwork. The illustration (No. 5) shows a beautiful beaded bed-head in my possession; not only the head, but the edges all around, are bound with red flannel.



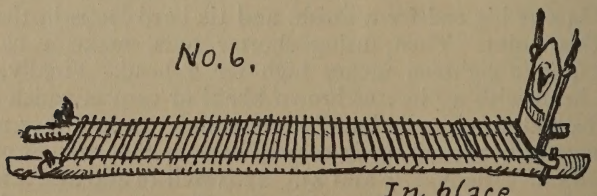
No. 5 The beaded head.

When in use the bed is laid with the ends of the rods resting on two 4-inch poles, which are set firmly twenty-six inches apart; and the bed is staked at the corners through the loops to hold it in place (Cut No. 6). Cut No. 7 shows a fine specimen of an Arapaho bed all ready for use. When we can get no poles, we lay down a couple of boards or rods to carry the ends of the bed, and then dig the ground out in the middle. By means of two tall stakes the head part is held upright. When packed up the bed is rolled. It weighs about five pounds.

Of course, you always need *as much under you as over you*. Couched on such a natural spring mattress as the willow bed you sleep in perfect comfort.

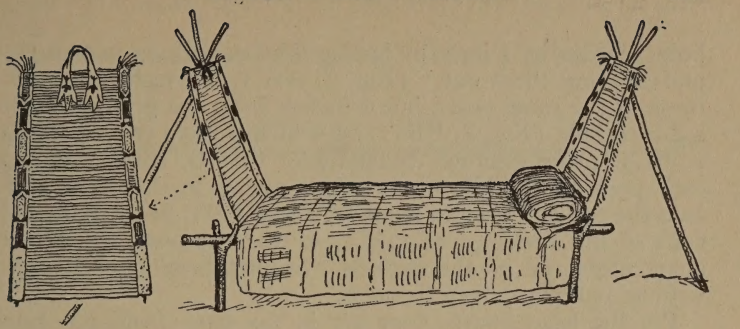
For those who wish to complete its sumptuousness a rush or grass mat may be added. (See Camp Loom, p. 215.)

After long use the willows get bent, to prevent this the bed should be turned over every few days.



No. 6.

In place



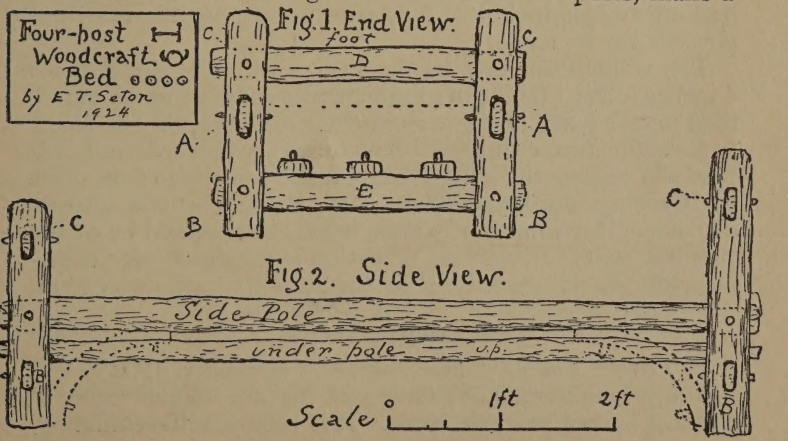
No. 7. ARAPAHO BED OF WILLOWS. Rep. Bur. Am. Ethn. p. 963, 14th Ann.

How to Make a "Four-Poster" for a Willow Bed

For complete equipment for the willow bed, you need a "four-poster."

Get four posts of soft, strong wood, each about 4 inches thick, two of them 24 inches long and two of them 30 inches; five poles, 7 feet long and about 3 inches thick; four poles about 3 feet long and 3 inches thick, flattened for a few inches at each end; a block of heart wood of either pin oak or white oak, 6 inches long, of which you make 18 pegs ⅜ inch thick and 6 inches long. For tools you need a saw, a sharp hatchet, a good knife, a turning brace with a 1-inch bit and a ½-inch bit.

Ten inches from the ground in each of the posts, make a



hole 3 inches by 1 inch, by boring 3 holes with an inch augur and clearing them out. (Fig. 1, AA.) At right angles to these in the same posts, but 4 inches from the ground, make a 2-inch hole (Fig. 2, BB), and 4 inches from the top (Fig. 2, CC), make another 2-inch hole; that is, three holes in each post, the middle one at right angles to the other two. Into the top and bottom holes (CC and BB), fit the flattened ends of the 3-inch poles (DE), so that the posts are 3 feet apart measured on the outside. Secure them at each joint with an oak pin driven through.

Put the head boards together in the same fashion. Into the holes AA, fit the side poles by flattening the ends. The more tightly they fit, the more steady the bed. One pin at each joint is enough.

On the lower cross piece (E), at each end are rested the three smaller poles. They may rest in slots, or be pegged in, or even tied on. If flattened and well-pegged, they help to brace the bed.

In general, the better the joints, the better the bed. Square shoulders on the mortices will make it steady. If wabbly, angle braces of naturally bent wood may be pegged on the underside of the side poles and against the posts, as indicated by the dotted lines. Rawhide braces across the angles are sometimes used.

The oak pins, after they are shaped, should be dried in heat strong enough to scorch their tips. This makes them very hard, and such will drive into soft wood without a preliminary augur hole. It is from its use in this way that pin oak got its name.

The willow bed rests on the side poles. The under poles 4 inches lower (UP) are to support the rods if they sag more than is safe when all the weight chances to rest on one place.

Now the frame of the "four-poster" is finished, and it is ready to receive the willow bed, unless you wish to decorate it. Carvings on the posts are good, also circles and squares of color. But whatever is done in this line, should be of the simplest style. Beware of realistic pictures or flower paintings, and do not decorate it on the parts that are never seen.

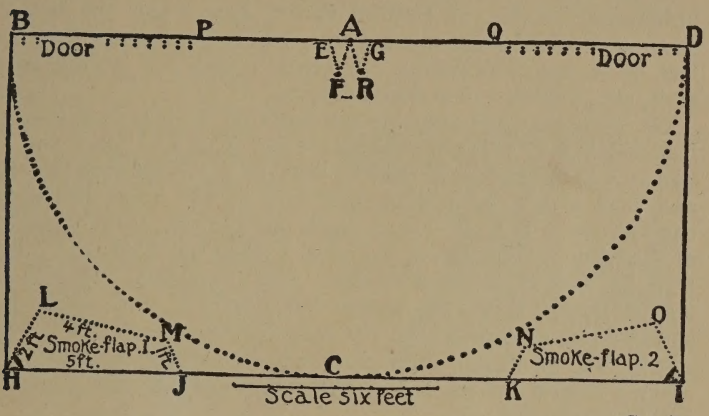
Making a Teepee

(From *Ladies' Home Journal,* September, 1902)

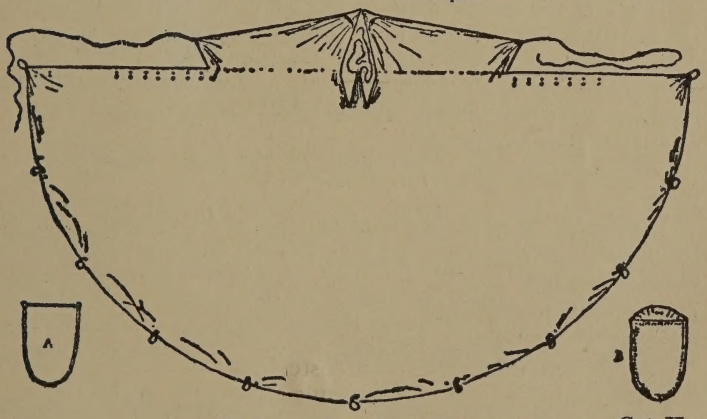
Many famous campers have said that the Indian teepee is the best known movable home. It is roomy, self-ventilating,

cannot blow down, and is the only tent that admits of a fire inside.

Then why is it not everywhere used? Because of the difficulty



Pattern of 10-Foot Teepee. Cut I



The Complete Teepee Cover—Unornamented.
A—Frame for Door.
B—Door Completed. Cut II

of the poles. If on the prairie, you must carry your poles. If in the woods, you must cut them at each camp.

A 10-foot teepee is the smallest size worth having for practical use. A larger one is easier to keep clear of smoke, but most

boys will prefer the small one, as it is much handier, cheaper, and easier to make. I shall therefore give the working plan of a 10-foot teepee of the simplest form.

It requires 22 square yards of 6- or 8-ounce duck, heavy unbleached muslin, or Canton flannel (the wider the better, as that saves labor in making up), which costs about $6; 100 feet of $\frac{3}{16}$ inch clothesline, 25 cents; string for sewing rope ends, etc., 5 cents. Total about $7.00.

Get your material machine run together 20 feet long and 10 feet wide. Lay this down perfectly flat (Cut I). On a peg or nail at A in the middle of the long side put a 10-foot cord loosely, and then with a burnt stick in a loop at the other end draw the half-circle B C D. Now mark out the two little triangles at A. A E is 6 inches, A F and E F each one foot; the other triangle, A R G, is the same size. Cut the canvas along these dotted lines. From the scraps left over cut two pieces for smoke-flaps, as shown. In the long corner of each (H in No. 1, I in No. 2) a small three-cornered piece should be sewed, to make a pocket for the end of the smoke pole, or else a 2-inch hole right through.

Now sew the smoke-flaps to the cover so that M L of No. 1 is neatly fitted to P E, and N O of No. 2 to Q D.

Two inches from the edge B P make a double row of holes; each hole is $1\frac{1}{2}$ inches from its mate, and each pair is 5 inches from the next pair, except at the 2-foot space marked "door," where no holes are needed.

The holes on the other side, Q D, must exactly fit on these.

At A fasten very strongly a 4-foot rope by the middle. Fasten the end of a 10-foot cord to J and another to K; hem a rope all along in the bottom, B C D. Cut 12 pieces of rope each about 15 inches long, fasten one firmly to the canvas at B, another at the point D, and the rest at regular distances to the hem rope along the edge between, for peg loops. The teepee cover is now made.

For the door (some never use one) take a limber sapling $\frac{3}{4}$ inch thick and $5\frac{1}{2}$ feet long, also one 22 inches long. Bend the long one into a horseshoe and fasten the short one across the ends (A in Cut II). On this stretch canvas, leaving a flap at the top in the middle of which two small holes are made (B, Cut II), so as to hang the door on a lacing-pin. Nine of these lacing-pins are needed. They are of smooth, round, straight, hard wood, a foot long and $\frac{1}{4}$ inch thick. They skewer the overlapped edges together.

Storm Cap or Bull-boat

During long continued or heavy rains, a good deal of water may come in the smoke-vent or drip down the poles. To prevent this the Missouri Indians would sometimes use a circular bull-boat of rawhide on a frame of willows as a storm cap.

For a twelve-foot teepee the storm cap should be about four feet across and eighteen inches deep, made of canvas with a hem edge in which is a limber rod to keep it in circular shape. It is usually put on with a loose teepee pole, and sits on top of the poles as shown, held down if need be by cords to its edge.

The poles should be short and even for this.

Putting Up the Teepee

Twelve poles also are needed. They should be as straight and smooth as possible; crooked, rough poles are signs of a bad housekeeper—a squaw is known by her teepee poles. They should be 13 or 14 feet long and about 1 inch thick at the top. Two are for the smoke-vent; they may be more slender than the others, and should have a 4-inch crosspiece lashed on them about 2 feet from the top. Last of all, make a dozen stout short pegs about 15 inches long and about $1\frac{1}{2}$ inches thick. Now all the necessary parts of the teepee are made.

This is how the Indian tent is put up: Tie three* poles together at a point about 1 foot higher than the canvas, spread them out in a tripod the right distance apart; then lay the other poles (except three including the two slender ones) in the angles, their lower ends forming a small circle. Bind them all with a rope, letting its end hang down inside for an anchor. Now fasten the two ropes at A (Cut I) to the stout pole left over at a point 10 feet up. Raise this into its place, and the teepee

* Some use four and find it stronger.

cover with it, opposite where the door is to be. Carry the two wings of the tent around till they overlap and fasten together with the lacing-pins. Put the end of a vent-pole in each of the vent flap pockets or else through the holes there, outside of the teepee. Peg down the edges of the canvas at each loop. Stretch the cover by spreading the poles. Hang the door on a convenient lacing-pin. Drive a stout stake inside the teepee, tie the anchor rope to this and the teepee

is ready for weather. In the centre dig a hole 18 inches wide and 6 inches deep for the fire.

The fire is the great advantage of the teepee, experience will show how to manage the smoke. Keep the smoke-vent swung down wind, or at least quartering down. Sometimes you must leave the door a little open or raise the bottom of the teepee cover a little on the windward side. If this makes too much draught on your back, stretch a piece of canvas between two

or three of the poles inside the teepee, in front of the opening made and reaching to the ground. The draught will go up behind this.

By these tricks you can make the vent draw the smoke. But after all the main thing is to use only the best and driest of wood. This makes a clear fire. There will always be more or less smoke 7 or 8 feet up, but it worries no one there and keeps the mosquitoes away.

Archery

The tribe should own a Standard Target—that is, 4 feet across, circular, made of straw, with a thin oilcloth cover, marked with a 9.6 inch centre of gold (called by some of our tribes "The Buffalo's Eye"); outside of that a 4.8 inch band of red, next a similar band of blue, next of black, next of white. Sometimes black rings of the right size are made to answer.

In scoring, the gold is 9, the red 7, the blue 5, the black 3, the white 1. The shortest match range for the target is 40 yards. If it is a 3-foot target the match range is reduced to 30 yards.

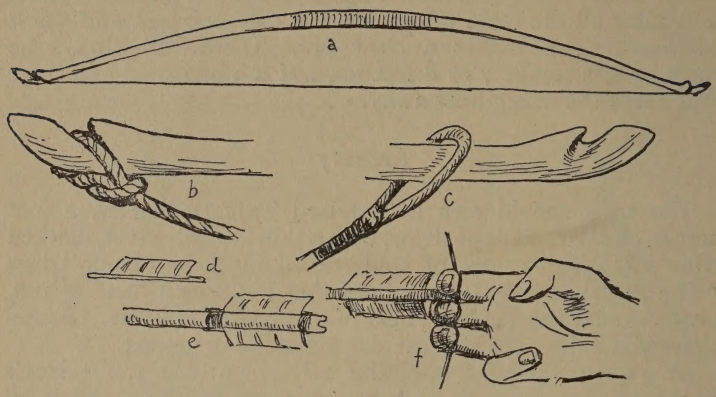
A target can be made of a burlap sack about five feet square. This should be stuffed full of hay or straw, then flattened by a few quilting stitches put right through with a long packing needle. On this the target is painted of exact right size.

Each boy should have a bow that pulls from 10 pounds up; about one pound for each year of his age is a safe guide for boys up to sixteen. He should have at least 6 arrows and a quiver. The arrows 25 inches long, with 3 feathers, cone-points of steel or iron; brass points are useless. A guard or bracer for the left wrist is needed, and most boys require a glove to protect the fingers of the right hand.

Bows can be bought for $1 to $5 and arrows from 15 cents to $3 each. But it is more creditable if you make them yourself.

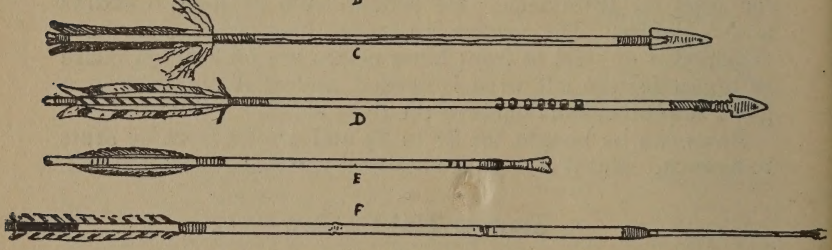
How to Make a Bow

Take a straight, sound piece of cedar, bodark, yew, sassafras, mulberry, apple tree, black locust, ironwood, ash, elm, hickory, or hemlock. Cut it so that it is half sap and half heartwood, flat on the sapwood side (or front) and round on the heartwood side (or back). It should be about an inch thick in the middle and tapered off to $\frac{3}{4}$ inch at each end. Cut two notches and put on a strong linen cord, either a bought bow-string or one



ARCHERY

a. The bow strung. b. The cord fast at the lower end. c. The cord with loop at upper end. d. Feather ready to tie on. e. Feathers lashed on. f. Holding.



SIX SAMPLE ARROWS, SHOWING DIFFERENT FEATHERS

A is a far-flying steel-pointed bobtail, very good in wind. *B* is another very good arrow, with a horn point. This went even better than *A* if there were no wind. *C* is an Omaha war and deer arrow. Both heads and feathers are lashed on with sinew. The long tufts of down left on the feathers are to help in finding it again, as they are snow-white and wave in the breeze. The grooves on the shaft are to make the victim bleed more freely and be more easily tracked. *D* is another Omaha arrow with a peculiar owner's mark of rings carved in the middle. *E* is a bone-headed bird shaft made by the Indians of the Mackenzie River *F* is a war arrow made by Geronimo, the famous Apache chief. Its shaft is three joints of a straight cane. The tip is of hard wood, and on that is a fine quartz point; all being lashed together with sinew.

made of many twisted linen threads. At one end it is fast to the bow by a timber hitch, at the other by a hard loop.

When strung the string should be about 5 inches from the bow.

Arrows should be 25 inches long, and $\frac{3}{8}$ of an inch thick. They are made of pine or ash. The Eastern Indians made them usually of arrow-wood or viburnum shoots.

Each should have a conical steel ferrule for head and three feathers to make it fly true. The feathers are lashed on.

Holding and Drawing

It is very important to begin shooting in correct form and never change from that if you wish to become a good shot.

Grasp the bow in the left hand. Put the arrow on the string with the right. Hook the first three fingers on the string one above, two below the arrow. The little finger and thumb do nothing. (f in upper cut, p. 242.)

Stand perfectly upright, left side toward the target, the heels 12 inches apart and in exact line from the target. Hold the bow upright and the arrow against the left side of it, resting on the hand. Draw the cord till the head of the arrow touches the bow and the top of your thumb rests on the corner of your mouth. You must sight along the arrow for direction, but guess for elevation. Hold it one second.

Release the arrow by straightening your fingers and at the same time turn your hand back up, but keep the thumb tip at your mouth corner. Do not move the left hand a hair's-breadth till the arrow has struck.

Begin practising at very short range and slowly increase up to the standard, forty yards.

Unstring the bow when not in use.

Woodcraft Paints

Paints for ornamenting robes are mixed with water. (Clark: "Sign Language.")

Paints for the body are mixed with grease or tallow from some animal.

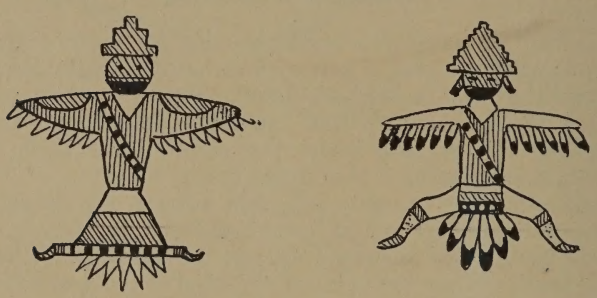
Paints for lodges, totem poles, etc., were made durable by slowly melting or mixing into the grease enough rosin to make it sticky. This formed their paint oil.

Red. Before the Indian had the white man's vermilion he used a certain stiff yellow clay (brick clay) which, when burnt,

turned dull red—i. e., brick color. This he powdered and mixed with the grease oil.

In some parts of the country there are springs strongly impregnated with iron. A log of wood dug out of this—or failing that an armful of chips long soaked in it—when taken out, dried and burnt, yielded ashes of a beautiful rosy color. These worked up into a very pretty red.

Yellow. Yellow clay or ochres are common in clay regions and furnish a dull yellow. Clark says that the flower of the prairie goldenrod yields a good yellow; also the bright yellow



Zuni Eagles 23 Am. Rep. B.A.E.

moss one sees on the trunks of pine trees in the Rockies. When dried and powdered this makes a sort of chrome yellow, and is also used as a dye.

"The Sioux use bull-berries" for yellow. (Clark.)

Blue. They had no good blue. Blue clays come nearest to the color. Sometimes black and white mixed were used.

Black. Soot and charcoal, ground into the paint oil, made a good black.

White. For white they used white clays, which are common in some regions, or burnt shells, finely powdered.

"Generally speaking, *Black* means joy; *White*, mourning; *Red*, beauty; and an excessive use of any of these or other colors, excitement."

Painting or greasing was universal among Indians. They did it to beautify themselves and also to protect the skins from the weather. Though we condemn them for the practice, most of our women and a great many of our men do the same thing for the same reason.

Woodcraft Dyes

The dyes used to stain porcupine quills, spruce roots, and other strong material, of which they made ornaments and utensils, were very numerous, and some of them very beautiful.

Red. Soak the roots in the juice of the Squaw-berry—Blitum or Mis-caw-wa. Many other berries give red or purple.

Black. Boil the roots, etc., with the bark, branches, and berries of sumac, or the bark and chips of oak and soft maple, with some iron in the pot.

Yellow. A beautiful yellow is made by boiling the inner bark of golden or black oak. Or the root of yellowroot or hydrastis. In the Rocky Mountains the yellow moss off pine trees serves.

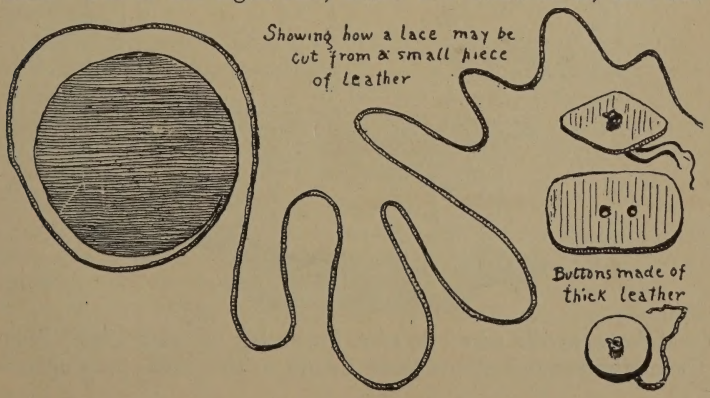
Orange. Orange is obtained by two dips—one in the red and one in the yellow after the first is dry.

Lace or Thong

If you need a lace or thong and have no leather long enough, take a square piece, round the corners, then cut it round and round, till it is all used up. Pull and roll the thong produced until it is small and even, without kinks.

Woodcraft Buttons

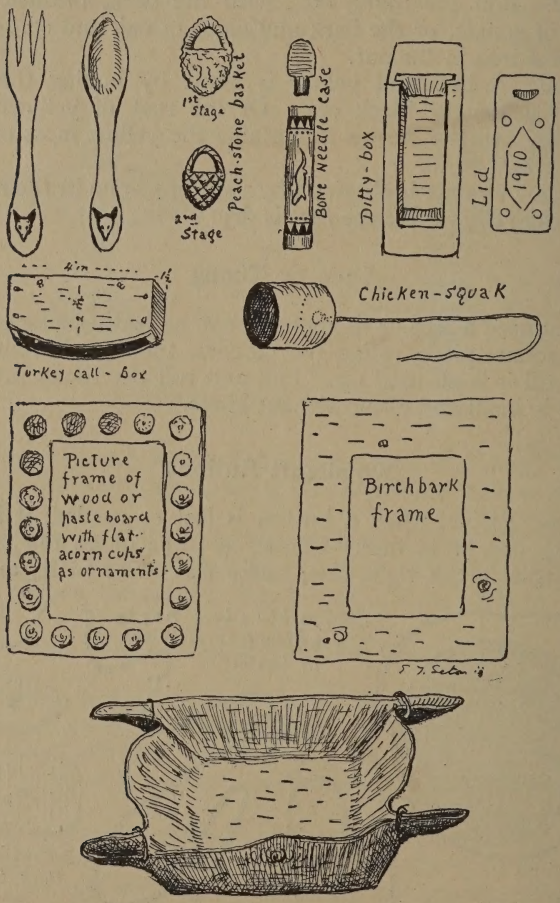
On the Plains, when a button is lost or needed, it is easy to make one of leather. Usually a piece of an old strap is used. Cut it the right size, make two holes in it, and sew



it on as an ordinary button. This never breaks or fails. As the old plainsman who first showed me, said, "There's a button that'll be right there when the coat's all wore away from behind it."

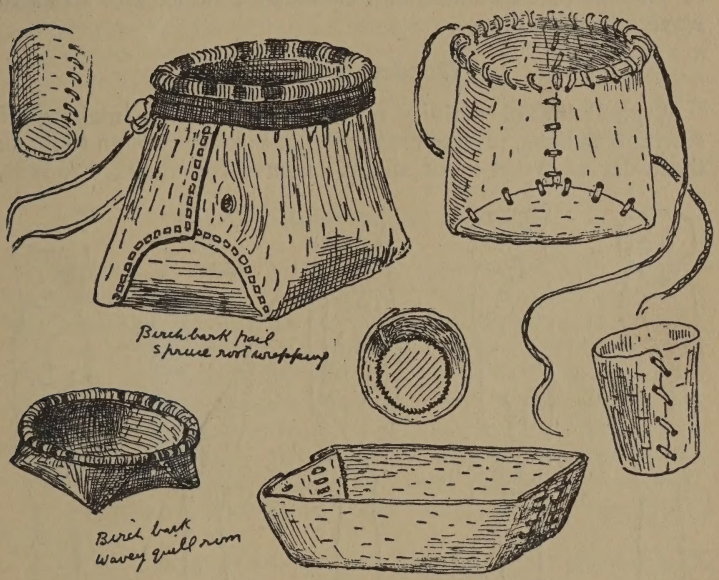
Handicraft Stunts

Let each Woodcrafter carve a *fork* and *spoon* out of wood, with his band totem on the handle.



Make a *needle case* out of a fowl's leg or wing bone, thus: Clean and smooth about three inches of the bone, plug up one

end with a soft wood plug, and make a wooden stopper for the other end. Then with the point of a knife decorate the bone. The lines should be scratched in deeply and then have black paint rubbed into them. If no black paint is handy make a mixture of soot and pine gum, with a little grease, butter, or oil.



Make a *tackle box* or *ditty box* 2 x 2 x 6 inches carved out of solid wood.

Make *peach-stone baskets*, of a peach-stone shaped with a file.

Turkey call. An interesting curio is the turkey call. Take a small cigar box and cut off the end as in the figure. Get a piece of slate about 2 x 3 inches long, or, failing slate, take a flat piece of wood and rub it well with rosin. Draw the two curved edges of the box lightly up this one way, and it will make a wonderfully good imitation of a turkey call.

A chicken squawk. This is another call easily made. Take any small round tin box—a condensed milk tin is good—and make a hole through the bottom and into this put a cord. A knot on the inside prevents the cord from slipping through. Rosin the cord and draw the fingers down it with short and long jerks. This gives a good imitation of a cackling hen.

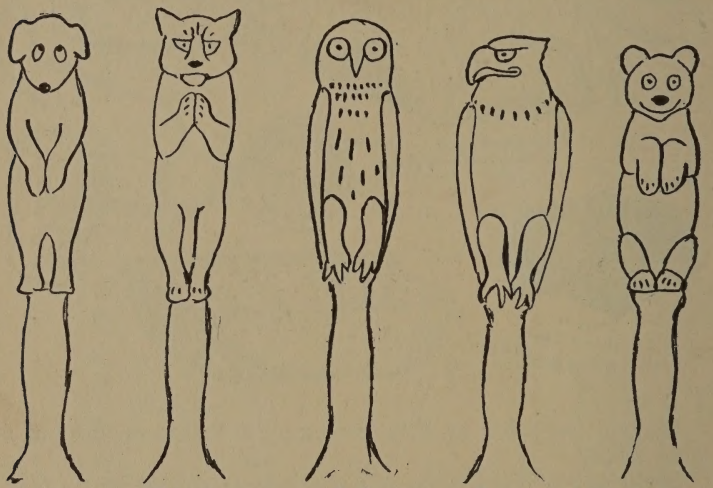
Picture frames as in the illustrations.

Birch-bark boxes and baskets. These are easily made if the bark be softened in hot water before you shape it. The lacing is spruce roots, or raffia also softened with hot water.

Noggin. A noggin is a wooden cup made out of a tree burl or knot polished outside and carefully scooped out so as to leave a thin shell.

Woodcraft Spoons

A good indoor activity of Woodcraft is the making of souvenir spoons. Some craftsmen are clever enough to make these out of wood or of silver. I have found that the best,



easy-working material is bone, deer antler, or horn. Go to any big drug shop and get one of the 25-cent horn spoons. It is already of a good spoon-shape, of course. The handle is hard, smooth, and ready to be ornamented with any device, cutting it with knife or file, into the owner's totem, or the band or the tribal totems which naturalyl suggest themselves.

At one time the wood of the laurel was much used for spoons, hence the bush is still called "spoon wood" in some regions.

The design should be sketched on with pencil or ink, then realized by shaping the outline with file or knife. The inner lines are merely scratched on the surface.

In general, one should avoid changing the main outline of the spoon handle or cutting it enough to weaken it. Always, rather, adapt the animal to fill the desired space.

There are several purposes the spoon can answer: First, as a spoon in camp, especially when prizes are offered to the camp that makes most of its own equipment; next, as a salable article; third, as an exhibition article when it is desired to get up a fine exhibit of handicraft products illustrating camp life.

How to Make Indian Pottery

There are two well known, simple methods in the potter's art; one with a wheel, the other without. The first is quicker but the second is the more primitive, also simpler and cheaper.

In this, the first thing is the supply of good, stiff yellow or blue clay, which must be worked up thoroughly to get rid of all lumps. Potters usually puddle it with water till it is like cream, then run it through a fine sieve, after which it is brought to the right condition by evaporating the water. Clay is tempered by mixing in with the slip, pure sand, crushed quartz or shell, or (best of all) old pottery finely ground.

Now on a small board, table or bench, the pot is to be built up, beginning with the flat bottom part. Roll the clay into long strips and coil it round and round, as though making a basket or nest, sticking each new coil tightly to the rest by pressing them together, or even adding a little water if the clay seems too dry to stick well. After the bottom and three or four inches of the side are built up, work it over with a knife or flat stick and a little water, to close up all joints and make the surface even. Then set the pot aside to dry out a little, or it may not be strong enough to bear the next addition. Wet the edge of it to continue the work, adding coil after coil until again it is as high as safe, when it must be left to set. Continue this process until all is in final shape. Set it away in some warm place to dry out thoroughly.

Now it is time to paint the pot. There are regular pottery colors sold at the artist color shops; but the Indian used charcoal or soot off the pots for black, red ochre for red, and

gypsum or powdered quartz for white. These shades suited the ground color of the clay and sufficed for very beautiful effects. Sometimes the entire vessel was painted a white or yellow as a background.

The colors are mixed with water to a cream or slip, and applied with a brush. Again the pot must be thoroughly dried. A trace of moisture in the clay would result in the destruction of the pot in the last operation, which is the firing.

Lay the pots in rows on the ground, about six inches apart each way, a small log that is a little higher than the pots between each row. Gently build over them with small pieces of dry wood, bark, etc., a pile of firewood three or four feet high. Light it and keep it going for two hours. Then it settles down to a glowing pile of embers and gradually the pots come to view. Some of them may be cracked, but usually, if they were properly dried and not injured by wood falling on them, they survive the fiery ordeal and come out complete, and hard terra cotta, with the pattern indelibly burned in.

Be sure and let them cool gradually by the dying out of the fire. If you rake them out while yet red, the sudden exposure to cold air will cause them to go to pieces.

Low, flat dishes are the easiest things to make, but the tall vases are more beautiful.

A thin rim of clay, i e., one of half an inch thickness, is more likely to come unbroken through the fire, than a very thick one or a much thinner one.

Smoke Prints of Leaves

Maybe this is the oldest form of flat printing, for the leaves can print themselves if they happen to fall on a flat rock during a wet day.

I remember the joy I had as a child in making these prints —for any one can do it. I only wish I had kept some of them, they would seem treasures to me now. But that was before the day of Tally Books.

This is how they are made—take a sheet of ordinary paper and grease it very well with butter or lard. Then hold this over a candle grease side down so that the flame touches the paper—move it about quickly to keep the paper from burning until it is everywhere smoked black.

Now lay this black paper on a flat surface, black side up, and the leaf on it—usually the under side of the leaf prints better than the upper—cover this by laying a clean sheet of paper on it and press or rub all over this with the finger tips till every part of the leaf has been pressed against the black paper. Then lift the leaf and lay it, black side down, on a clean white sheet with a clean sheet over it. Hold it steady with one hand and press or rub all over with the finger tips as before. Lift the leaf up by the stem and, lo! you have a beautiful print of the leaf in permanent black ink. Add the name and date and your trophy is ready for the Tally Book.

The easiest to print are the brambles, elm or dogwood. Ferns are always successful. Flowers rarely so.

In making the black smoke paper it is wise to make it very black, but there should still be enough grease to make it shiny. If there is too little smoke the print is gray—if too much grease it smears. The same black paper will do for many leaves, especially if the black be evened up between times by rubbing it with the finger tips. A soft pad or sheet of blotting paper under the leaf makes a better print.

A little practice enables any reasonably careful person to make the most exquisitely beautiful prints—the illustrations below give some idea, but are lacking in the delicacy and detail of the smoke print itself.

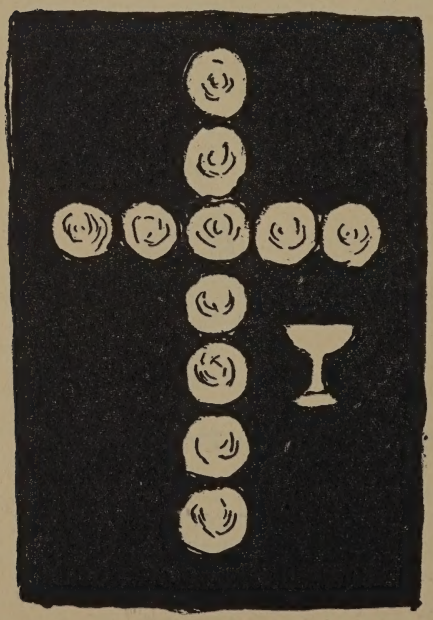
The Blood Red Cross in the Pine

A friend asked me what is the most beautiful color in nature. At once, my thoughts flew to the sunset clouds, to the peacock's plumes, the humming bird's throat, blood on the snow, the blue of the gentian, the red of the rambler. But they kept on flying and passed many wonders that have

given much happiness, and rested last of all on a pine knot with the noon sun shining through.

How amazing and wonderful it is, very few know. Though so common, it is rarely seen, for these four conditions are needed: your pine knot must be sawn in a thin veneer, it must be solid and resinous, the sun must be blazing through it and you must be in a dark room. It was in a black outhouse in the West that I first realized the splendor of this matchless color. I saw in it the storied tints of the Holy Grail, "like fingers held before a lamp." It was blood, it was wine, it was fire, it was life,—such depth, such vibrating hues in it that it gave me feelings I never before had gathered from a color.

I set about immediately to make a stained glass window of thin-sawn knots of pine. Simple it was to the last degree, —an upright row of these pine knot slices, and a short row crossing, making a veritable, wonderful rosy cross. Below at one side and to the right, I set another knot, blocked out in the shape of a goblet, a Holy Grail.



It is an easy thing to make. And to see it is a duty that the forester owes to himself and to the wonderful pine tree. It will show you the hidden fires of the pine, the sunlight stored in the wood, far more completely than can any other glimpse that you may get. The words "Divine" and "elemental fire" will have new meaning when you see it.

And as it blazes, it exhales the heavenly, intensified incense, the frankincense of the pine.

Do you remember the story of the Holy Grail, the crystal goblet in which, legend hath it, Joseph of Arimathea captured the life blood of the Savior, the Sang Real? And how that Holy Grail vanished from the eyes of a sinful world, but may yet be seen by those whose eyes are purged by noble living.

Many saints sought after the Holy Grail and dreamed of it as a symbol.

St. Augustine, I think it was, wrote:

> "Rend the rock and ye shall find me,
> Cleave the wood and there am I."

I may be wrong in my quotation and its meaning, but these thoughts came back with a vision of joy and power as I gazed on the Rosy Cross and the blood-red Grail brought to view from a riven pine.

Bird Boxes or Houses

A good line of winter work is making bird boxes to have them ready for the spring birds.

Two styles of bird houses are in vogue: one a miniature house on a pole, the other is an artificial hollow limb in a tree.

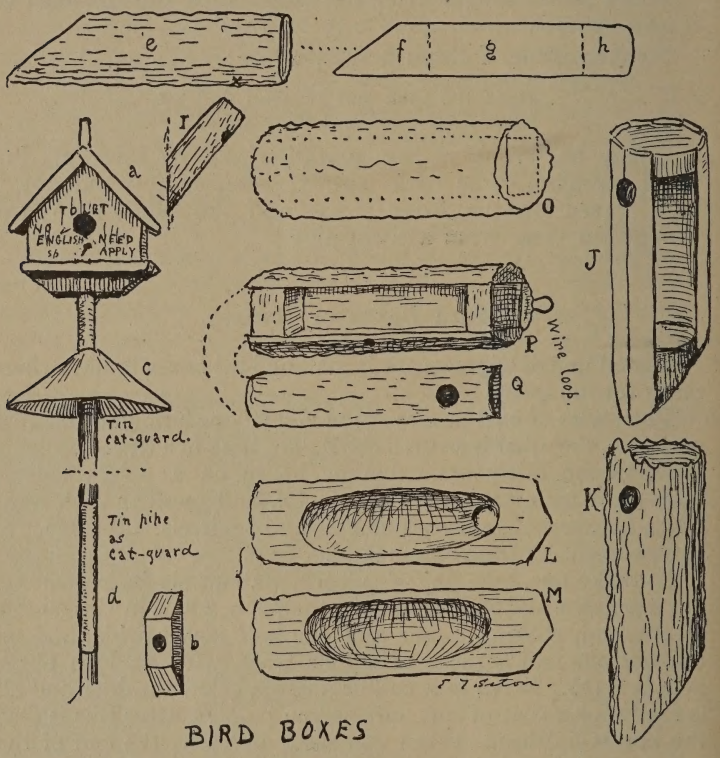
First—the miniature cabin or house on a pole. This is very good for martins, swallows, etc., and popular with most birds, because it is safest from cats and squirrels. But most of us consider it far from ornamental.

To make one, take any wooden box about six inches square, put a wooden roof on it (a in cut), then bore a hole in the middle of one end, making it one and one half inches wide; and on the bottom nail a piece of 2 inch wood with an inch auger hole in it (b). Drive in a nail or a perch below the door and all is ready for a coat of soft, olive-green paint. After this is dry, the box is finished. When you set it in place, the end of the pole is shaved to fit tight into the auger hole in the bottom, and the pole then set up, or fastened to the end of the building. In the latter case a six or eight foot pole is long enough. In some neighborhoods it is necessary to put tin as a cat and rat guard, on the pole, as shown (c and d). Some elaborate these bird houses, making a half dozen compartments. When this is done the pole goes right through the lowest floor and fits into a small hole in the floor above.

These large apartment houses are very popular with the

purple martin, as well as with the English sparrow if they are set up in town.

Alexander Wilson tells us that the Choctaw and Chicasaw Indians used to make bird houses for the purple martins thus: "Cut off all top branches from a sapling, near their cabins, leaving the prongs a foot or two in length, on each of which they hang



BIRD BOXES

a gourd or calabash properly hollowed out for their convenience."

But the wild-wood box or hollow limb is more sightly and for some birds more attractive. There are several ways of using the natural limb. One is, take a seven or eight inch stick of chestnut about twenty inches long, split four slabs off it (o), then saw off three inches of each end of the "core" and nail the whole thing together again (p and q), omitting the middle part of the core.

Another way is to split the log in half and scoop out the interior of each half (l and m). When nailed together again it makes a commodious chamber, about five inches wide and a foot or more deep.

Another plan is: Take a five-inch limb of green chestnut, elm, or any other tough-barked tree. Cut a piece eighteen inches long, make a long bevel on one end (e). Now carefully split the bark on one side and peel it. Then saw the peeled wood into three pieces (f g h), leave out g and put the bark on again. Cut a hole in the bark on the longest side, at the place farthest from the beveled end (x in e), and your bird nest is finished. The beveled end is there to make it easily nailed up; when in place, it is as at i. The front—that is, the side where the door is—should always be the under one; and the door in each case should be near the top.

But these methods presuppose a fine big stick of wood. I have more often found it convenient to work with scraps.

Here is one easy way that I have long used: From a four or five inch round log saw off two sections each two inches thick, or failing a log, cut out two circles from a two-inch plank, for top and bottom parts (like f and h); then using six or seven laths instead of bark, make a hollow cylinder (j). Cover the hollow cylinder with a large piece of bark and cut the hole (k). Cut your entry at the top, half on each of a pair of laths. Cover the whole thing with bark nailed neatly on; or failing the bark, cover it with canvas and paint a dull green mottled with black and gray.

This last has the advantage of giving most room in a small log. Of course, if one can find a hollow limb, all this work is saved. By way of variety this one can be put up hanging from a nail, for which the wire loop is made.

To a great extent the size of hole regulates the kind of bird, as most birds like a tight fit.

For wrens make it about one inch; for bluebirds and tree-swallows one and one half inches; for martins two and one half inches.

Sparrow-proof Bird Box

When I was a boy, I stumbled on a plan for keeping sparrows out of bird boxes and have recently revived it with success. It consists in making a conspicuous trap door to cover the entrance hole. Watch for a sparrow to enter, then pull the string, catch the sparrow and use him as seems best.

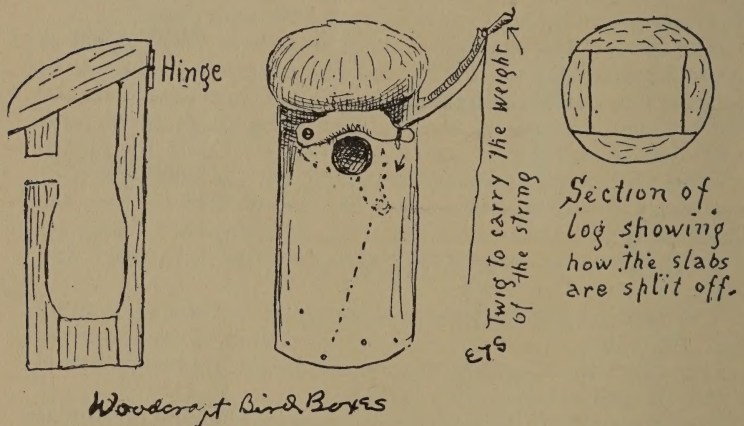
After one or two sparrows have been captured in this

way, their friends become suspicious of the device over the door and will not enter a nesting box with such an obvious menace.

Thus the sparrow's intelligence is turned against himself. Our native birds, having no evil experience with the trap. do not fear it.

The trap door is shown on the Woodcraft Bird Box, which is one made as already described by slabbing a round log, cutting out the core, then nailing it together again.

The twig or wire at one side carries the weight of the string which, otherwise, might close the door during a heavy wind.



When the string is firmly pulled, the twig gives and the door is pulled down over the hole.

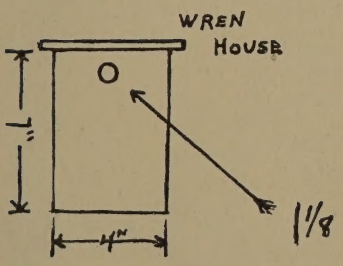
The advantages of the Woodcraft Bird Box over the other kinds are:

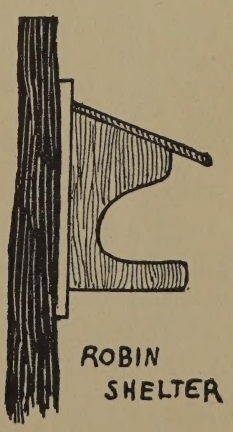
It is cheap.
It is picturesque.
It is observational.
It is sparrow-proof.

Bird Boxes

Carol Stryker, *Debwenando Tribe*

Name of Bird	Size	Size of Entrance	Height from Ground
House Wren	4 x 4 x 7″	1⅛″	6′-15′
Blue Bird	5 x 5 x 8″	1½″	8′-25′
Chickadee	4 x 4 x 8 to 10″	1¼″	6′-15′
Nut Hatch	4 x 4 x 8 to 10″	1¼″	6′-15′
Tit Mouse	4 x 4 x 8 to 10″	1¼″	8′-20′
Downy	4 x 4 x 8 to 10″	1¼″	6′-30′
Tree Swallow	5 x 5 x 6″	1½″	15′-25′
Hairy	6 x 6 x 12 to 15″	1¾″	8′-20′
Crested Flycatcher	6 x 6 x 8 to 10″	1¾″	8′-20′
Screech Owl	8 x 8 x 12 to 15″	3″	15′-30′
Saw Whet Owl	6 x 6 x 10″	2½″	15′-20′
Barn Owl	10 x 18 x 10 to 18″	6″	10′-20′
Sparrow Hawk	8 x 8 x 12″	3″	15′-30′
Wood Duck	10 x 18 x 10 to 15″	6″	15′-25′





Shelter Houses

Name of Bird	Size	Height from Ground
Robin	6 x 8 x 8″	6′-25′
Song Sparrow	6 x 6 x 6″	11′-15′
Phoebes	7 x 7 x 7½″	10′-20′

Books Recommended

Making of a Hollow Tree, by E. T. Seton, *Country Life in America,* November, 1908, and seq.

Putting up Bird Boxes, by B. S. Bowdish (special leaflet), Audubon Society, 1974 Broadway, New York, 15 cents per dozen.

Useful Birds and Their Protection, by E. H. Forbush, Massachusetts State Board Agriculture, p. 388.

How to Make Baskets, Mary White. Doubleday, Page & Co. $1.00 plus 10 cents postage.

Box Furniture, Louise Brigham. Century Co. $1.60.

How to Make Pottery, Mary White. Doubleday, Page & Co. $1.00.

Working in Metals, Charles Conrad Steffel. Doubleday, Page & Co. $1.00.

Field and Forest Handy Book, Dan C. Beard. Scribner's. $1.50.

The Jack of All Trades, Dan C. Beard. Scribner's. $1.50.

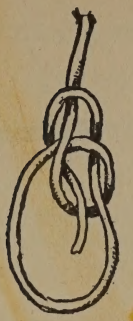
For latest ideas send to The Jacobs Bird House Company, 404 So. Washington Street, Waynesburg, Pa.

Knots

The following are standard knots that an accomplished camper should know. Remember, a perfect knot is one that neither jambs nor slips.

For other knots, see Knots, Splices and Rope Work, by A. H. Verrill.

Reef knot or square knot: never slips or jambs: easily loosed.

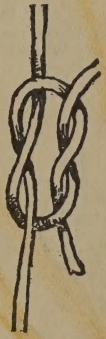


Bowline: a noose that neither jambs nor slips.

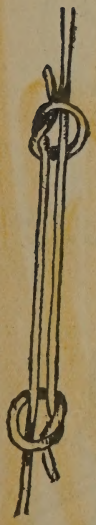
Binder knot, for joining heavy cord, etc.

Anchor bend.

Slip knot, running noose, or halter knot.



False reef or granny: always bad.

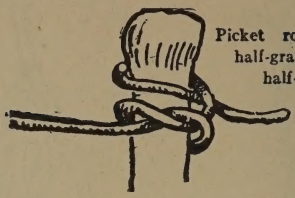


The fisherman's knot. It never slips; is easily opened by pulling the two short ends.

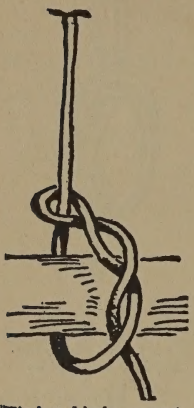
Weaver's knot or sheet bend, for joining small cords.

Two half-hitches.

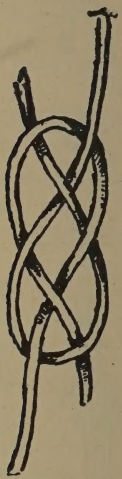
Fixed loop in middle of a cord.



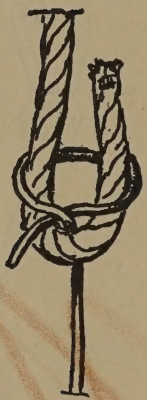
Picket rope with half-granny and a half-hitch.



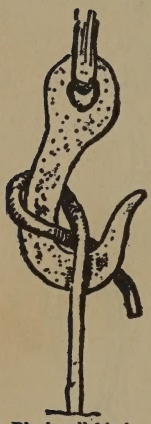
Timber hitch: cannot slip or jamb; easily loosed.



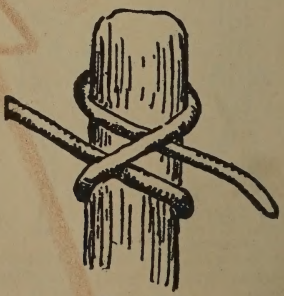
Carrick bend, for joining large ropes.



Becket hitch, for joining a cord and a rope.



Blackwall hitch.



Clove hitch.

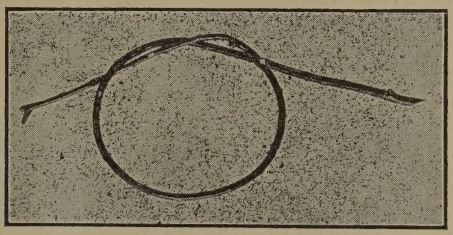
Wax-end lashing; hidden end.

SOME PIONEER HANDICRAFT

By Frank Stoll

February is a particularly eventful time for all Woodcrafters. During this month were born Washington and Lincoln, whose influence has been so great in American life.

Both were trained in the outdoors and knew how to take care of themselves in it. They had the seeing eye, the hearing ear, and the thinking hand. To them a jackknife and an



ax were fundamental tools with which they could build a cabin and make a table, a spoon, or almost anything they required, from the woods around them.

Handicraft is fine training for young people and the finest of recreation for older people.

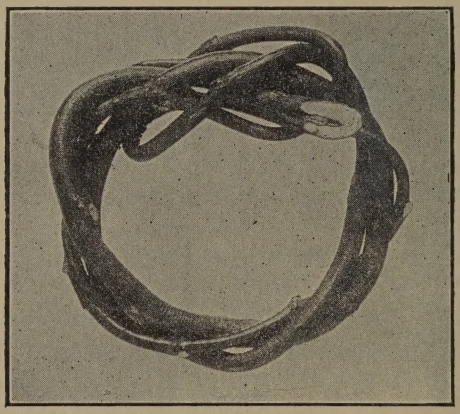
We have all heard of withes. Can you make one?

Hickory Withes. Select a green branch of Mockernut, Shagbark, or Pignut hickory, of diameter to give strength required. One-half inch is a practical size for hand work. The longer, straighter, and more uniform the branch, the better it will serve your purpose. Carefully trim off all lateral twigs if any exist. Holding the branch firmly in both hands, bend it from butt to tip and in every direction, gently at first to avoid kinks. Continue this "working up" process until the entire stick is supple, taking care not to leave stiff or unworked sections.

Now tie it into an overhand knot, large at first, then reduce the size of the bight by sliding along the end and standing part (tip and butt). Continue to wrap the ends around the original loop until they are used up. A good withe when completed should have three strands in every part, be free

from kinks and nearly circular. Such a withe will withstand an outward strain of from 100 to 1,000 pounds.

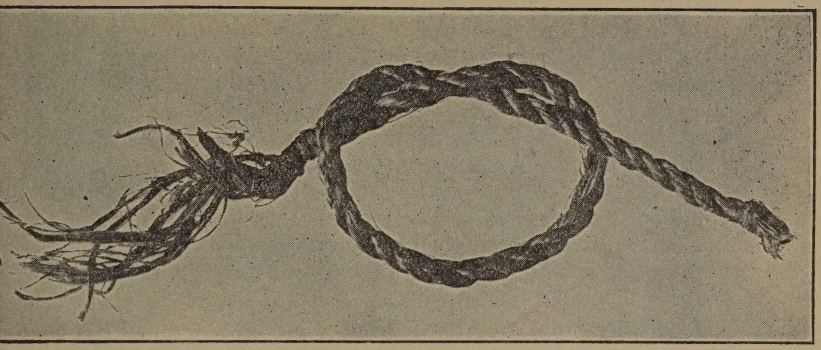
We know that withes (sometimes spelled *wythes*) have been in use by civilized peoples for the past four hundred years, and beyond a doubt they were used by the ancient tribes. Bacon relates the story of a condemned Irish rebel early in Queen Elizabeth's reign, or about 1560, who requested of the deputy that he "be hanged in a withe, not a halter." Withes in those days were made of willow or osier. The hickories are American trees and supply our best material where great strength is required. Ax and hammer handles, as well as wooden axles, whiffletrees, and ox yokes, are examples. This wood will not, however, withstand exposure to the weather.



A Hickory Withe Made By Frank Stoll

The uses of withes are too many and varied to enumerate in detail, but in general they have served the purposes which ropes and iron bands now serve. A few suggestions follow: For hoops or bails on tubs, pails, or baskets; as a binder for the top of a tripod for open-fire kettle, poles for tepee, or for derrick; for holding banisters and railings in place or for shackles in the game of "Stung."

Woodcrafters might try substituting withes wherever ropes are needed as binders, and report the uses.



Rope Made of Hickory Bark By Frank Stoll

How to Make a Rope

By Frank Stoll

Did you ever make a rope? It is an ambition worthy of every Woodcrafter. "But," you say, "how can we make ropes? The materials from which they are made are found in distant lands." Commercially and generally speaking, that is true, although cotton, of which the United States produces 60% of the world supply, is used extensively in the manufacture of cords and lines. Cotton is perhaps the most flexible of the commercial materials and is sufficiently strong for the smaller cordage. Common hemp is superior, possessing the combination of strength, flexibility, and durability.

Custom among sailors has decreed that the term "rope" indicates that the diameter is one inch or more. Other authorities agree that the diameter may be one-half inch or more. However, we hear cords of one-quarter inch diameter called "rope."

The principal rope materials are: common hemp, Manila hemp, sisal hemp, Phormium hemp, Sunn hemp, Jubbulpore hemp, jute, coir, flax, agave fibre, and cotton, all of which are vegetable.

A rope is composed of a certain number of strands, the strand itself being made up of a number of single threads or yarn. Three strands twisted together form a "hawser-

laid" rope. The prepared fibre is twisted or spun to the right hand to form the yarn; the required number of yarns receive a left-hand twist to form a strand; three strands twisted to the right make a hawser; three hawsers twisted to the left form a cable. Thus the twist in each operation is in a different direction from that of the preceding one. The yield of rope from a given length of yarn is about three-fourths of the length of the yarn composing it.

The material from which you make your rope is, for the purpose of learning, of less importance than the method employed. Almost any available fibrous material will serve your purpose. The young, inner bark of most shrubs and trees is very adaptable. The accompanying illustration is made from such bark of the hickory, is about the color of Manila paper, is reasonably flexible and very strong. The length of the individual fibres is of little consequence, since in hand-made rope additional pieces are twisted into the "strand" as required to maintain a uniform size.

Having selected your material, make three little bundles of uniform size. Around each bundle, near one end, wrap a single thread of the material. Now place the three bundles parallel, with binding threads at the same point, and again wrap a thread around the three directly outside of the first three threads. These bundles are your strands. Holding this foundation firmly in the left hand, with thumb and finger tips at the band, take one strand in the right hand and twist it to the left; meanwhile wrap it outside of the other two strands to the right. Hold this one in place with the thumb of the left hand, while the same twisting and wrapping operation is practiced on strand number two. Now hold the two in place, retaining the twist, while the third strand is twisted and wrapped. All that now remains is to repeat the process, introducing additional threads to the strands as others are used up in your progress.

How to Collect Insects

Although a great deal of profitable entertainment may be had by simply watching insects, many of us wish to collect and preserve examples of the species that interest us most. This can easily be done, and we may rest assured that, the way we kill them, we give the creatures little or no more pain

than we do to a plant when we pick a flower. Furthermore, there is little danger that our activities will injure Nature, unless we destroy too many insect homes by forgetting to put back the logs and stones we have turned over, or by similar thoughtlessness.

The classic way to catch butterflies and similar creatures is with a fine net fastened to a hoop-like affair on the end of a stick. A much better way, if you have the time and patience, is to rear the adults from eggs, larvae, or pupae; this is better because it gives you fresh specimens and especially because, in addition to specimens, it gives you a knowledge of the life history of the species.

A "butterfly net" may be bought, or it may be home-made. If bought, I would advise the sort in which the hoop folds flat. Or you can buy a fisherman's landing net, preferably a folding one, and replace the coarse net that comes with it by a bag of bobbinet or of "mosquito netting." Make the depth of the bag at least 50 per cent. greater than the diameter of the hoop. I started my entomological activities with a contraption that I rigged up out of mosquito netting, hay wire, and a broom handle. The hay wire was too wobbly; so I substituted a hoop off a butter tub. Later on I used the butt of a bamboo fishing pole in place of a broom handle, and that was my standby for years. The bag should be deeper than it is wide, so that, when you have an insect in the bottom of the bag, you can, by a twist of the wrist, fold the bag against the hoop and imprison your captive in the bottom of the net.

Having caught an insect, the best way to kill it is usually with the fumes given off by cyanide of potassium. This is a deadly poison if taken into the mouth, so be careful how you handle it. A killing bottle may be of almost any size or shape. An empty olive bottle is very good, but it should have a tight-fitting cork; screw tops are not convenient. If you use cyanide, put in a layer of the poison broken up into pieces no larger than a small hickory nut; cover this with a layer of dry sawdust or torn blotting paper; and, finally, pour in just enough plaster of Paris to cover the absorbing material and hold everything in place. Leave the bottle uncorked for a few hours after making it up, but after that keep it closed except to put in and take out specimens. Loose strips of newspaper or toilet paper should be put in the bottle to keep the specimens from rattling around and also to

absorb excess moisture. A "sweaty" bottle should never be used, as it will spoil the specimens.

Those who are afraid of cyanide or are not on good enough terms with a druggist to be able to buy it have used chloroform or ether. These, especially chloroform, tend to stiffen the specimens. The patent liquid, Carbona, now advertised as a cleaning agent, is said to be a very good substitute for these. Whatever the fluid, it is used by pouring it on cotton that is kept in place at the bottom of the bottle by a disk of blotting paper. All beetles and dragon-flies may be killed in alcohol, and also brown, hairless insects; but butterflies, bees and flies should not be wet, and alcohol extracts the green of grasshoppers. Insect larvae and also spiders, which, by the way, are not insects, should be killed and kept in alcohol.

Of course, there is much more to the subject than is told here, but these hints ought to be enough to start with.

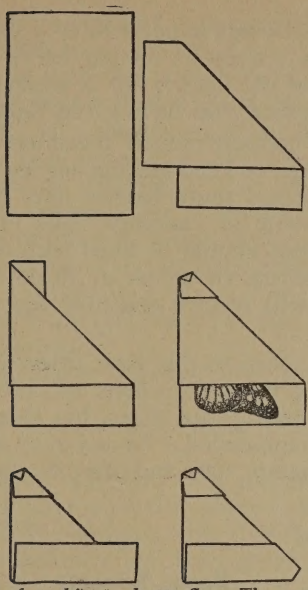
FRANK E. LUTZ.

How to Preserve Insects

Having collected and killed the relatively few insects that we wish to keep for future reference, we ought to know how to preserve them. However, do not forget that information about the insects is usually of as much value as the specimens—or more. Keep notes.

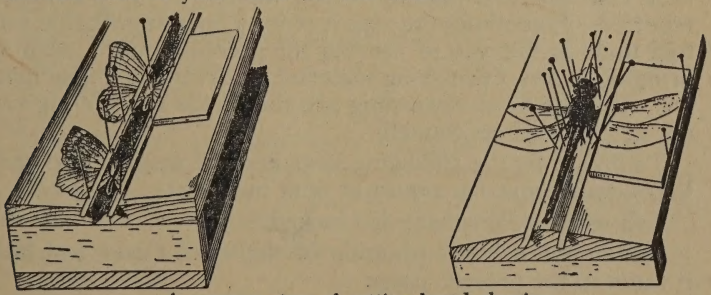
Insects collected in alcohol may remain there, or they may, unless soft-bodied, be pinned as explained below. If butterflies cannot be pinned at once, they should be packed in "triangles" as shown in the accompanying sketch. Other insects may be packed in boxes, making first a thin layer of cotton, then a single layer of insects, then a sheet of soft paper, then a layer of cotton, and so on. Or they may be packed in small rolls of porous paper. The rolls can conveniently be made around a pencil, the ends of each roll being tucked in to fasten it. No preservation is necessary except fairly rapid and thorough drying.

Fresh insects may be pinned at once. Dried insects must first be relaxed by putting them in a moist chamber for a day or two. Any deep, covered dish will serve as a relaxing box (if moist sand or wet blotting paper be put in it). There should be a rack to keep the insects from touching water or getting actually wet.



Method of packing a butterfly. The paper used in making the envelope should be stiff enough to protect the wings.

Long, slender pins should be used. The proper sort may be bought of entomological supply houses. Pin true bugs through the triangular space on their back; pin beetles through the right wing-cover near its base; pin other insects a shade to the right of the middle line of that part of the thorax that is just back of the head.



A common type of setting board showing different stages in "spreading." A setting board for use when it is desired to spread the legs.

If you wish the wings expanded, they can be stretched out and fastened on boards as shown here. After the specimen has dried on the boards for a week or two, the wings will keep the position you have given them.

The boxes to contain pinned specimens may be any sort that is tight enough to keep out the beetles that feed on dried insects. Visits from these beetles may be discouraged by keeping naphthalene or camphor balls in the boxes. The bottom of the boxes should be lined with cork, or two layers of corrugated paper, or strips of dried cornstalk pith, or anything which will receive and hold the pins without rusting them.

If you do not wish to pin your insects, they may be displayed by putting them on a layer of cotton, covering them with glass, and sealing the edges, but this method is not to be especially recommended. At any rate, do not forget your notes about the habits, date and place of capture, etc., of each specimen.

FRANK E. LUTZ.

Scout Reports

The Scout Reports are a feature of the Council that is often neglected, or done badly when it might be made one of the strongest and most helpful of all. There is no number on our program capable of being more useful. Usually the leader needs only a few examples to appreciate this.

The report is supposed to tell what the Woodcrafter has seen or done since last Council. It may, however, go farther back than that and take up remote matters if not previously reported. Sometimes the report is for something that he was told to do in the way of serving the present council, such as bringing chairs, furnishing material, or arranging some matter. But the most rewarding are the things definitely given out at the previous council.

To illustrate, the following have been allotted, one to each Woodcraft scout for report at next meeting:

Tell us why Broadway is crooked.

Tell us the original meaning of the word *Camp* and how it came to the present usage.

Tell us 25 English words that are names of different kinds of hill, or of a stream, or of a valley.

Show us 10 different signs of the sign or gesture language that the traffic policeman uses all day.

Get a half walnut shell, fill it with putty, set pegs in the putty for legs, head, and tail, and make an extinct monster.

Make a porcupine of a chestnut burr by similar treatment.

Make a monkey with a pussy willow for body, and head, legs, and tail cut out of elder pith.

Bring 3 different smoke-prints of leaves.

Imitate some animal or bird sound, action, and expression.

Bring 3 peeled willow rods exactly alike in shape, size, color, etc.

Walk around the block and tell what you saw.

Make a willow whistle.

Tell the highest number on any motor car you have seen today.

Tell what is the nearest pine tree to this spot (or other well-marked tree).

Bring the leaves of 3 different oaks and name them.

Tell 5 blazes you have seen this week in town.

Name 25 wild birds you have seen since last council.

What is the last butterfly you have seen?

How can you tell malaria mosquito or fever-gnat from common gnat?

If I live in Massachusetts (or substitute your own state) and want a fence post that will last a long time, what woods should I use and what are the advantages of each?

At Culver Camp, Indiana, the Chief gave the following subjects for scouts to report on at next council:

The Blue-Bird's Nest at the Bridge.
The Old Gravel Pit.
The Tracks Around the Mud Hole.
The Trail to Camp.
The New Camp Site.

These general principles were laid down: When you get your instructions don't ask fool questions, but go and do, as quickly as possible. A perfect report gives date, place, weather, persons present, and time consumed. Also scale maps or diagrams, and after full details, gives a summing up of the subject.

In this case the reports were limited to 1,000 words each, and those who made careful typewritten copy scored ahead

of those who handed in rough field notes. Speed counted. In the above the best report was on "The Trail to Camp," because it was properly mapped, but it was defective in that it omitted date, place, weather, and general summing up.

As general suggestions for other tribes: Report on some given bird's nest, trail, pond, group of trees, blazes on trees, birds in certain woods between 7 and 8 A. M., the flower that dominates the roadway just now, wild flowers in a certain field, corner grocery, tracks on some road, what insects were seen today, crows in a certain field, group of houses, a certain bridge. Is white pine found here and how is it faring?

It is a good plan to have four or five report on the same subject, not comparing notes until after the report is turned in. Small prizes are given, merely to focus attention. The real stimulus is the grading given to the report, for all receive numbers, though some may be nearly equal; three possibly having fourth place, and half a dozen equally last.

In order to show that our feet are on the ground even if our heads are in the clouds, we commonly close our Scout Reports with one that it is well to have at least one grown-up respond to, namely: "What is the greatest event that has taken place in the outside world during the last month, or since last we assembled in Council?" Naturally we have no information except the newspapers, and it is always worth while to get the various reactions of the members.

VALUE OF LITTLE CUSTOMS

For what do we go to College—information or atmosphere? At first, one is inclined to say information, but thoughtful teachers usually concede that atmosphere is more important, because atmosphere instils principles, ideals, friendships, high standards, which cannot elsewhere be got, whereas information can be dug out of books.

A similar remark applies to camp life. Summer camps are virtually summer colleges. One may learn there to swim, to paddle, to know the trees, but one is a larger gainer if one get good methods and traditions that will serve through life.

As I have studied the work and studied the camps, I am impressed by the fact that not a little of the formative, helpful atmosphere is created in camp by little customs. A hundred things which in themselves seem unimportant, are the breeders of the subtle something that we call atmosphere.

For example, the little custom in Woodcraft camps of never crossing the Council Ring except by official request, of never sitting on the Council Rock unless one has reached a certain Woodcraft status, of never passing without removing a scrap of paper lying in the woods,—all tend to make one respect the Council Ring and its traditions, or to make one glory in the sanctity of the woods.

In many public schools,—I might almost say in all of them,—I have found a body of little customs peculiar in themselves, in which they take pride and are careful to continue by tradition; and these customs, though sometimes absurd, do nevertheless, build a pride in the school and incline one to follow after its ideals. For example, in one great school, I found that no boy was allowed to wear his trousers rolled up at the bottom till he had passed his first year. No one was allowed to sit on a certain high fence which gave a good view of the ballground till he had reached his second year. No one was allowed to carry a walking cane in public till he had reached his third year. Other customs, equally puzzling on the face of them, refer to the pronunciation of certain words.

My first reaction was against these things, but when I saw how they worked out, the pride the boys took in them, because they were inwrought with the ideally high standards of the school, I was forced to acknowledge their power.

Not long ago, the President of a great University asked me what my attitude was toward secret societies. I told him they were the inevitable expression of a deep-rooted gang instinct which is fundamental in the human race. It is impossible to suppress them. All attempts to do so have simply made them secret. Therefore, I should accept the inevitable and utilize the vast occult power there is in them by seeing to it that the traditions of the fraternities and their ideals be of a kind to continually uplift the standards of the University. When asked for details, I suggested: Supposing that such and such a Greek letter group make it their boast that never once has any one of them failed in some measure to respond

to the cry of Alma Mater when she was in any kind of trouble, financial or political; or if he could quietly inculcate as the boast of another group that not a member of it had ever been plucked, he would be using all the power of the gang instinct and the dynamics of atmosphere for the glory of the larger institution.

Now, to apply this to our camp life. In one camp, I slowly introduced a new mode of thought by getting a big garbage barrel and establishing the custom that no one pass that barrel without putting in some waste paper, glass or rubbish that he had picked up in the woods near by. In another I suggested that they glory in the fact that no boy ever spent three months in that camp without learning to swim. In another, a helpful ideal was set up when we suggested for a boast that none of their number had in any measure at any time started a dangerous fire.

Human nature inevitably runs to little customs. These are born of various things—local conditions, successful leaders, etc. They are not necessarily obvious but they are enormously powerful. Customs in themselves of negative value or even objectionable, can often be used to construct a wholesome atmosphere if the leader of the camp knows his business.

WOODLORE

WOODLORE

Edible Wild Plants

No one truly knows the woods until he can find with certainty a number of wild plants that furnish good food for man in the season when food is scarce; that is, in the winter or early spring.

During summer and autumn there is always an abundance of familiar nuts and berries, so that we may rule them out, and seek only for edible plants and roots that are available when nuts and berries are not.

Rock Tripe. The most wonderful of all is probably the greenish-black rock tripe, found on the bleakest, highest rocks in the northern parts of this continent. There is a wonderful display of it on the cliffs about Mohonk Lake, in the Catskills. Richardson and Franklin, the great northern explorers, lived on it for months. It must be very carefully cooked or it produces cramps. First gather and wash it as clear as possible of sand and grit, washing it again and again, snipping off the gritty parts of the roots where it held onto the mother rock. Then roast it slowly in a pan till dry and crisp. Next boil it for one hour and serve it either hot or cold. It looks like thick gumbo soup with short, thick pieces of black and green leaves in it. It tastes a little like tapioca with a slight flavoring of licorice. On some it acts as a purge.

Basswood Browse or Buds. As a child I ate these raw in quantities, as did also most of my young friends, but they will be found the better for cooking. They are particularly good and large in the early spring. The inmost bark also has food value, but one must disfigure the tree to get that, so we leave it out.

Slippery Elm. The same remarks apply to the buds and inner bark of the slippery elm. They are nutritious, acceptable food, especially when cooked with scraps of meat or fruit for flavoring. Furthermore, its flowers come out in the spring before the leaves, and produce very early in the season great quantities of seed which are like little nuts in the middle of a nearly circular wing. These ripen by the time the leaves are half grown

and have always been an important article of food among the wild things.

Many Indian tribes used to feed during famine times on the inner bark of cedar and white birch, as well as on the inner bark of the slippery elm and basswood, but these cannot be got without injury to the tree, so omit them.

When the snow is off the ground the plants respond quickly, and it is safe to assume that all the earliest flowers come up from big, fat roots.

A plant can spring up quickly in summer, gathering the material of growth from the air and soil, but a plant coming up in the early spring is doing business at a time when it cannot get support from its surroundings, and cannot keep on unless it has stored up capital from the summer before. This is the logic of the storehouse in the ground for these early comers.

Wapato. One of the earliest is wapato, or duck potato, also called common Arrowleaf, or Sagittaria. It is found in low, swampy flats, especially those that are under water for part of the year. Its root is about as big as a walnut and is good food, cooked or raw. These roots are not at the point where the leaves come out but at the ends of the long roots.

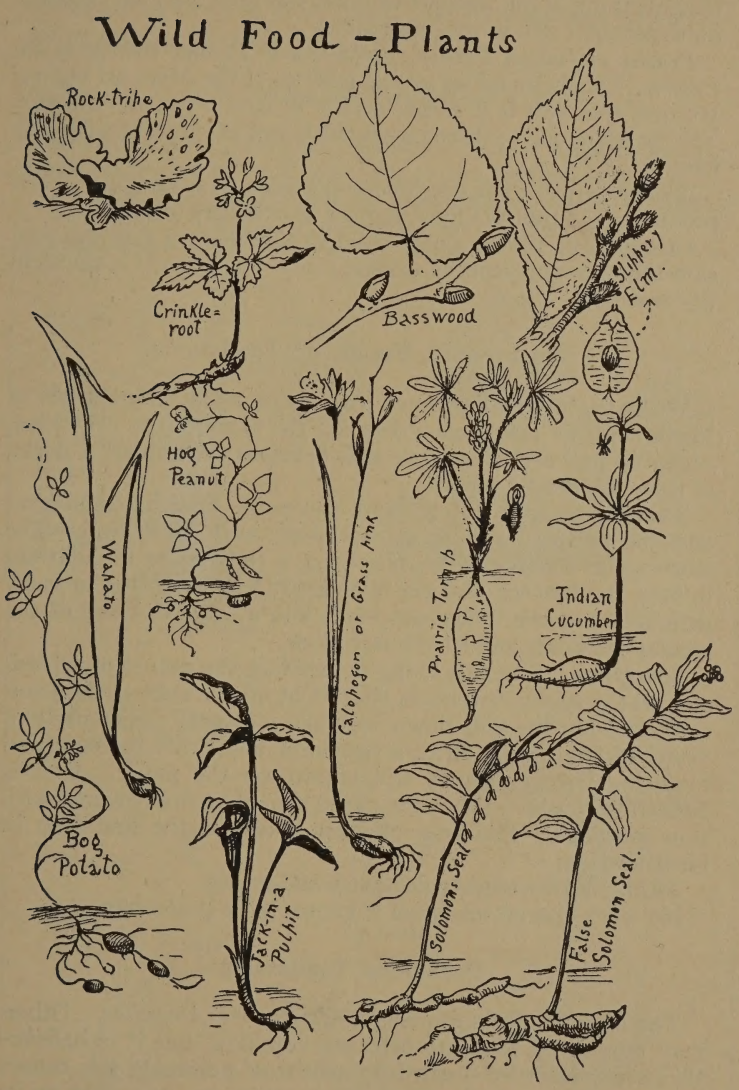
Bog Potato. On the drier banks, usually where the sedge begins near a swamp, we find the bog potato, or Indian potato. The plant is a slender vine with three, five, or seven leaflets in a group. On its roots in spring are from one to a dozen potatoes, varying from an inch to three inches in diameter. They taste like a cross between a peanut and a raw potato, and are very good cooked or raw.

Indian Cucumber. In the dry woods one is sure to see the pretty umbrella of the Indian cucumber. Its root is white and crisp and tastes somewhat like a cucumber, is one to four inches long, and good food raw or boiled.

Calopogon. This plant looks like a kind of grass with an onion for a root, but it does not taste of onions and is much sought after by wild animals and wild people. It is found in low or marshy places.

Hog Peanuts. In the early spring this plant will be found to have a large nut or fruit, buried under the leaves or quite underground in the dry woods. As summer goes by the plant uses up this capital, but on its roots it grows a lot of little nuts. These are rich food, but very small. The big nut is about an inch long and the little ones on the roots are any size up to that of a pea.

Indian Turnip or Jack-in-the-Pulpit. This is well known to


Wild Food - Plants
Rock-tripe
Crinkle-root
Basswood
Slippery Elm
Hog Peanut
Wahato
Bog Potato
Jack-in-a Pulpit
Calopogon or Grass pink
Prairie Turnip
Indian Cucumber
Solomon's Seal
False Solomon Seal

all our children in the East. The root is the most burning, acrid, horrible thing in the woods when raw, but after cooking becomes quite pleasant and is very nutritious.

Prairie or Indian Turnip, Bread-root or Pomme-blanche of the Prairie. This is found on all the prairies of the Missouri region. Its root was and is a staple article of food with the Indians. The roots are one to three inches thick and four to twelve inches long.

Solomon's Seal. The two Solomon's Seals (true and false) both produce roots that are long, bumpy storehouses of food.

Crinkle-root. Every school child in the country digs out and eats the pleasant peppery crinkle-root. It abounds in the rich, dry woods.

Mushrooms, Fungi, or Toadstools

We have in America about two thousand different kinds of Mushrooms or Toadstools; they are the same thing. Of these, probably half are wholesome and delicious; but about a dozen of them are deadly poison.

There is no way to tell them, except by knowing each kind and the recorded results of experience with each kind. The story about cooking with silver being a test has no foundation; in fact, the best way for the Woodcraft Boy or Girl is to know definitely a dozen dangerous kinds and a score or more of the wholesome kinds and let the rest alone.

Sporeprint. The first thing in deciding the nature of a toadstool is the sporeprint, made thus: Cut off the stem of the toadstool and lay the gills down on a piece of gray paper under a vessel of any kind. After a couple of hours, lift the cap, and radiating lines of spores will appear on the paper. If it is desired to preserve these, the paper should be first covered with thin mucilage. The *color* of these spores is the first step in identification.

All the deadly toadstools have *white* spores.

No black-spored toadstool is known to be poisonous.

Poisonous Toadstools

The only deadly poisonous kinds are the *Amanitas.* Others may purge and nauseate or cause vomiting, but it is believed that every recorded death from toadstool poisoning was caused by an Amanita, and unfortunately they are not only widespread and abundant, but they are much like the ordinary

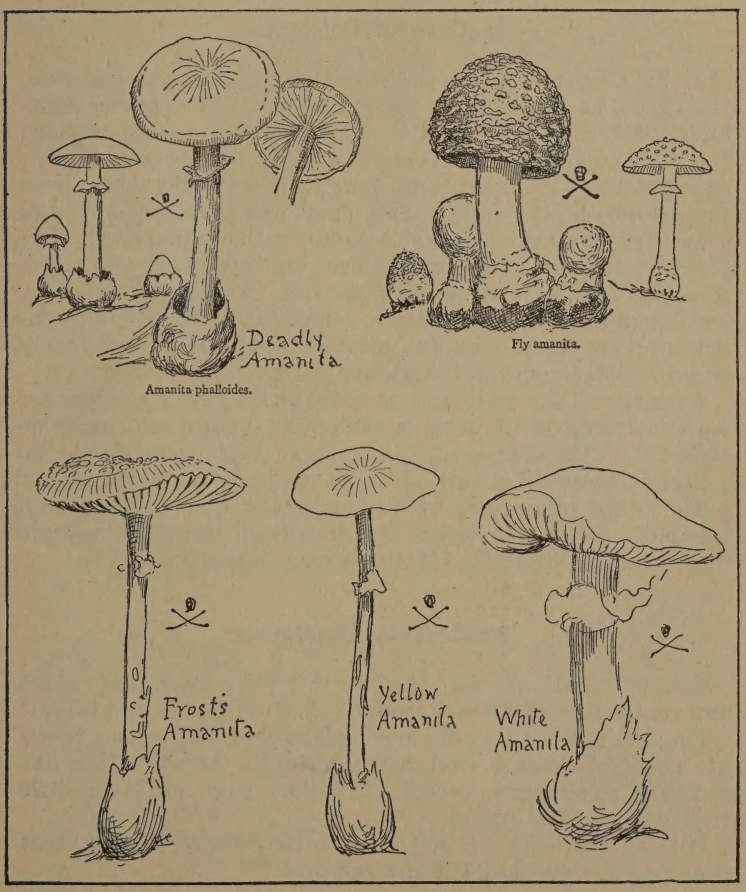
table mushrooms. They have, however, one or two strong marks: their stalk always grows out of a "*poison cup*," which shows either as a cup or as a *bulb;* they have *white* or *yellow* gills, a ring around the stalk, and *white spores.*

Deadly Toadstools

All the deadly toadstools known in North America are pictured on the plate, or of the types shown on the plate.

The Deadly Amanita may be brownish, yellowish, or white.

The Yellow Amanita of a delicate lemon color.



The White Amanita of a pure silvery, shiny white.

The Fly Amanita with cap pink, brown, yellow, or red in the centre, shaded into yellow at the edge, and patched with fragments of pure white veil.

The Frosty Amanita with yellow cap, pale cadmium in centre, elsewhere yellowish white, with white patches on warts.

All are very variable in color, etc.

But all agree in these things. They have *gills*, which are *white*, or *yellow*, a *ring on the stalk*, a *cup at the base*, *white spores*, and are *deadly poison*.

In Case of Poisoning

If by ill chance any one has eaten a poisonous Amanita, the effects do not begin to show till sixteen or eighteen hours afterward—that is, long after the poison has passed through the stomach and begun its deadly work on the nerve centres.

Symptoms. Vomiting and purging, "the discharge from the bowels being watery with small flakes suspended, and sometimes containing blood"; cramps in the extremities. The pulse is very slow and strong at first, but later weak and rapid, sometimes sweat and saliva pour out. Dizziness, faintness, and blindness, the skin clammy, cold, and bluish or livid; temperature low with dreadful tetanic convulsions, and finally stupor. (McIlvaine and Macadam, p. 627.)

Remedy: "Take an emetic at once, and send for a physician with instructions to bring hypodermic syringe and atropine sulphate. The dose is $\frac{1}{180}$ of a grain, and doses should be continued heroically until $\frac{1}{20}$ of a grain is administered, or until, in the physician's opinion, a proper quantity has been injected. Where the victim is critically ill the $\frac{1}{20}$ of a grain may be administered." (McIlvaine and Macadam, XVII.)

Wholesome Toadstools

It is a remarkable fact that all the queer freaks, like clubs and corals, the cranks and tomfools, in droll shapes and satanic colors, the funny poisonous looking Morels, Inkcaps, and Boleti are good, wholesome food, but the deadly Amanitas are like ordinary mushrooms, except that they have grown a little thin, delicate, and anæmic.

All the Puffballs are good before they begin to puff, that is as long as their flesh is white and firm.

All the *colored* coral toadstools are good, but the *White Clavaria* is said to be rather sickening.

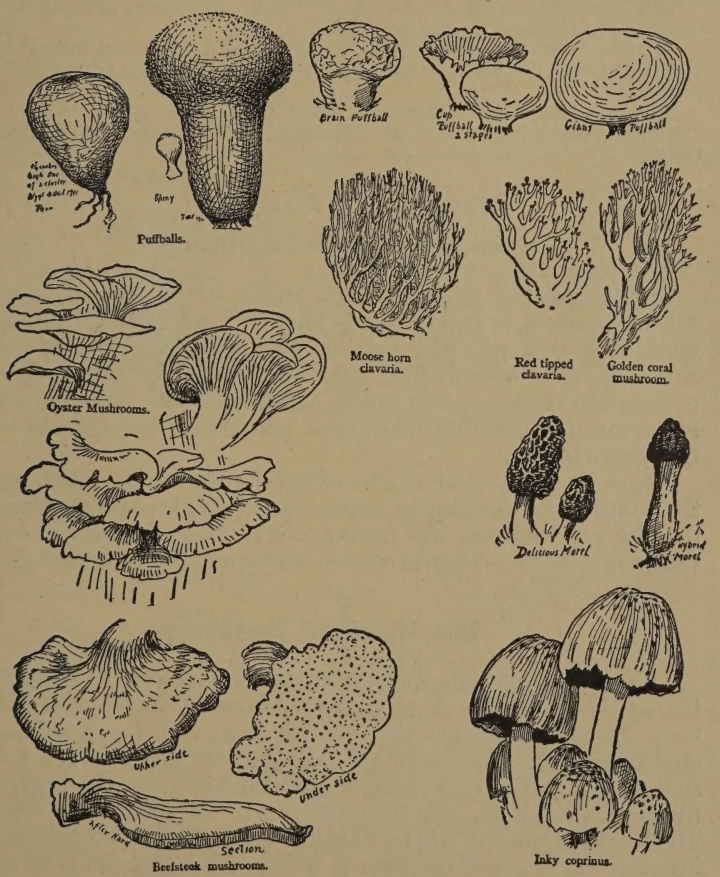
All of the Morels are safe and delicious. (Except Gyromitra esculenta.)

So also is Inky Coprinus, usually found on manure piles.

The Beefsteak Mushroom grows on stumps, chiefly chestnut. It looks like raw meat and bleeds when cut. It is quite good eating.

So far as known no black-spored toadstool is unwholesome.

The common mushroom is distinguished by its general shape,



its smell, its pink or brown gills, its white flesh, brown spores, and solid stem.

Mushroom Growing

(See Article on "How to Raise Money")

Books Recommended

EDIBLE AND POISONOUS FUNGI OF NEW YORK, by Charles H. Peck. Published by New York State Museum, Albany, 1895.

EDIBLE FUNGI OF NEW YORK, by Charles H. Peck. Published by New York State Museum, Albany, 1900.

THE MUSHROOM BOOK, by Nina L. Marshall. Published, 1902, at New York by Doubleday, Page & Co. $3.50

ONE THOUSAND AMERICAN FUNGI, by McIlvaine & Macadam, $5. Published by the Bobbs-Merrill Company of Indianapolis, 1902; add 40 cents express.

MUSHROOMS, by G. F. Atkinson. Holt & Co.

THE MUSHROOM, by M. E. Hard. The Ohio Library Company, Columbus, Ohio.

White Man's Woodcraft

or Measuring Weights and Distance

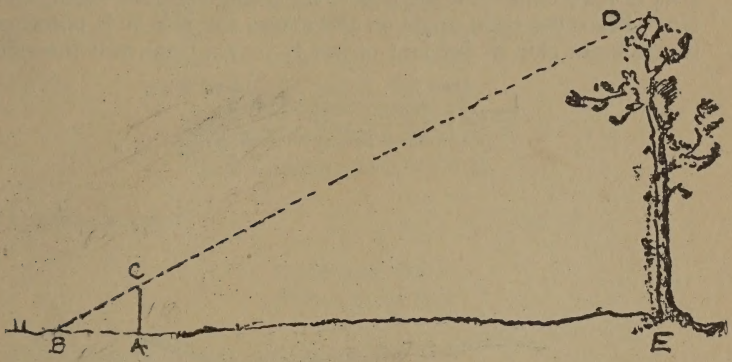
Would you like to tell a dog's height by its track? Then take the length in inches of his forefoot track, multiply it by eight, and that will give you his height at the shoulder. A little dog has a $2\frac{1}{4}$-inch foot and stands about eighteen inches; a sheepdog with a 3-inch track measures twenty-four inches, and a mastiff or any big dog with a 4-inch track gives thirty to thirty-two inches.

The dog's weight, too, can be judged by the track. Multiply the width of his forefoot in inches by the length, and multiply that by five and you will have a pretty close estimate of his weight in pounds. This, of course, does not apply to freak dogs.

The Height of Trees

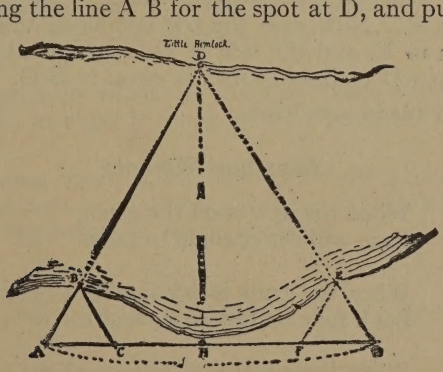
To get the height of a tree, cut a pole ten feet long. Choosing the smoothest ground A, prop the pole some distance from the tree. Lay down so that the eye B is level with the tree base and in line with the top of the pole and the tree. Mark the spot B with a peg and measure the distance from the peg to the foot of the pole, then from the peg to the foot of the tree. The height of the tree will be found by the formula: the distance between the peg and the pole is to the height of the pole as

the distance between the peg and the tree is to the height of the tree or BA: AC:: BE:X. This may be proved by selecting a knot on the tree which may be easily climbed to. See inside line.



To Measure the Distance Across a Stream

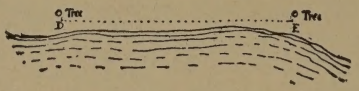
Drive a stake at H. To measure distance from H to D cut three straight poles of exactly the same length and peg them together in a triangle. Place the triangle on the bank at A, B, C, sighting the line A B for the spot at D, and put three pegs

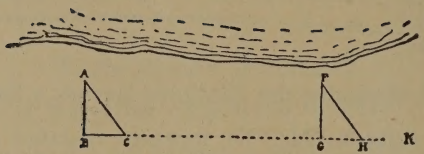


in the ground exactly under the three pegs where the triangle is. Move the triangle to E F G and placing it so that F G should line with A C, and E G with D. Now A G D almost must be an equilateral triangle; therefore, according to arithmetic, the line D H must be seven eighths of A G, which can of course be easily measured.

To Measure Distance Between Two Objects at a Distance

Cut three poles six, eight, and ten feet long and peg them together in a triangle. A B C is a right angle according to the laws of mathematics if the legs of the triangle are six, eight, and ten. Place the right angle on the shore, the side A B pointing to the inner side of the first object D (say a tree), and the side





B C as nearly as possible parallel with the line between the two trees. Put in a stake at B, another at C, and continue this line toward K. Now slide the triangle along this till the side G F points to E, and the side H G is in line with C B. The distance from D to E, of course, is equal to B G.

See "Two Little Savages," 1903.

Weather Wisdom

When the dew is on the grass,
Rain will never come to pass.

When the grass is dry at night,
Look for rain before the light.

When grass is dry at morning light,
Look for rain before the night.

Three days' rain will empty any sky.

A deep, clear sky of fleckless blue
Breeds storms within a day or two.

When the wind is in the east,
It's good for neither man nor beast.
When the wind is in the north,
The old folk should not venture forth.
When the wind is in the south,
It blows the bait in the fishes' mouth.
When the wind is in the west,
It is of all the winds the best.

An opening and a shetting
Is a sure sign of a wetting.

(Another version)

Open and shet,
Sure sign of wet.

(Still another)

It's lighting up to see to rain.

Evening red and morning gray
Sends the traveler on his way.
Evening gray and morning red
Sends the traveler home to bed.

Red sky at morning, the shepherd takes warning;
Red sky at night is the shepherd's delight.

If the sun goes down cloudy Friday, sure of a clear Sunday.

If a rooster crows standing on a fence or high place, it will clear. If on the ground, it doesn't count.

Between eleven and two
You can tell what the weather is going to do.

Rain before seven, clear before eleven.

Fog in the morning, bright sunny day.

If it rains, and the sun is shining at the same time, the devil is whipping his wife and it will surely rain to-morrow.

If it clears off during the night, it will rain again shortly.

Sun drawing water, sure sign of rain.

A circle round the moon means "storm." As many stars as are in circle, so many days before it will rain.

Sudden heat brings thunder.

A storm that comes against the wind is always a thunderstorm.

The oak and the ash draw lightning. Under the birch, the cedar, and balsam you are safe.

East wind brings rain.

West wind brings clear, bright, cool weather.

North wind brings cold.

South wind brings heat. (On Atlantic coast.)

The rain-crow or cuckoo (both species) is supposed by all hunters to foretell rain when its "Kow, kow, kow" is long and hard.

So, also, the tree-frog cries before rain.

Swallows flying low is a sign of rain; high, of clearing weather.

The rain follows the wind, and the heavy blast is just before the shower.

Outdoor Proverbs

What weighs an ounce in the morning, weighs a pound at night.

A pint is a pound the whole world round.

Allah reckons not against a man's allotted time the days he spends in the chase.

If there's only one, it isn't a track, it's an accident.

Better safe than sorry.

No smoke without fire.

The bluejay doesn't scream without reason.

The worm don't see nuffin pretty 'bout de robin's song.—(Darkey.)

Ducks flying overhead in the woods are generally pointed for water.

If the turtles on a log are dry, they have been there half an hour or more, which means no one has been near to alarm them.

Cobwebs across a hole mean "nothing inside."

Whenever you are trying to be smart, you are going wrong. Smart Aleck always comes to grief.

You are safe and winning when you are trying to be kind.

When Lost in the Woods

If you should miss your way, the first thing to remember is like the Indian, "You are not lost; it is the teepee that is lost."

It isn't serious. It cannot be so, unless you do something foolish.

The first and most natural thing to do is to get on a hill, up a tree, or other high lookout, and seek for some landmark near the camp. You may be so sure of these things:

You are not nearly as far from camp as you think you are.

Your friends will soon find you.

You can help them best by signaling.

The worst thing you can do is to get frightened. The truly dangerous enemy is not the cold or the hunger, so much as the fear. It is fear that robs the wanderer of his judgment and of his limb power; it is fear that turns the passing experience into a final tragedy. Only keep cool and all will be well.

If there is snow on the ground, you can follow your back track.

If you see no landmark, look for the smoke of the fire. Shout from time to time, and wait; for though you have been away for hours it is quite possible you are within earshot of your friends. If you happen to have a gun, fire it off twice in quick succession on your high lookout then wait and listen. Do this several times and wait plenty long enough, perhaps an hour. If this brings no help, send up a distress signal—that is, make two smoke fires by smothering two bright fires with green leaves and rotten wood, and keep them at least fifty feet apart, or the wind will confuse them. Two shots or two smokes are usually understood to mean "I am in trouble." Those in camp on seeing this should send up one smoke, which means "Camp is here."

In a word, "keep cool, make yourself comfortable, leave a record of your travels, and help your friends to find you."

TRACKING AND TRAILING

From "The Book of Woodcraft," Ernest Thompson Seton, Doubleday, Page & Co.

The Secrets of the Trail

It was Fenimore Cooper who first put the good Indian on paper—who called the attention of the world to the wonderful woodcraft of these most wonderful savages. It was he who made white men realize how far they had got away from the primitive. It was he who glorified the woodman and his craft.

Yet nowhere do we find in Cooper's novels any attempt to take us out and show us this woodcraft. He is content to stand with us afar off and point it out as something to be worshipped —to point it out and let it die.

Fenimore Cooper has had many imitators, just as Uncas has had many successors. The fine art of trailing is still maintained in the Far West, and it has always seemed strange to me that none has endeavored to give it permanent record, other than superlative adjectives of outside praise.

Trailing

What is trailing? The fox-hunter has some idea when he sees a superb pack follow a faint scent through a hundred perplexing places, discerning just which way the fox went, and about how long ago. The detective does another kind of trailing when he follows some trifling clue through the world of thought, tracing the secret of an unknown man along an invisible path, running it to earth at last in the very brain that conceived it. In his trailing the Indian uses the senses of the "animal" to aid the brain of the man. To a great extent his eyes do the work of the hound's nose, but the nose is not idle. When the trail disappears, he must do the human detective work; but under all circumstances his brains must be backed by the finest senses, superb physique, and ripe experience, or he cannot hope to overmatch his prey.

Hard to Photograph Tracks

When, in 1882, I began my dictionary of tracks (see "Life Histories of Northern Animals"), I found that there was no literature on the subject. All facts had to be gathered directly from Nature. My first attempts at recording tracks were made with pencil and paper. Next, realizing how completely the pencil sketch is limited by one's own knowledge, I tried photography; but it invariably happens that not one track in ten thousand is fit for photographing, and it cannot be taken except when the sun is about thirty degrees above the horizon—that is, high enough to make a picture, and low enough to cast a shadow of every detail. Thus photography was possible only for about an hour in the early morning and an hour in the late afternoon. But the opportunity in the meanwhile usually was gone. I then tried making a plaster cast of the tracks in the mud. Only one such in a million was

castable. As a matter of fact, none of the finest were in the mud; and the much more interesting dust-tracks were never within reach of this method. For most practical purposes I have been forced to make my records by drawing the tracks.

No Two Tracks Alike

The trailer's first task is to learn the trails he means to follow. The Red Indian and the Bushman, of course, simply memorize them from their earliest days, but we find it helpful and much easier to record them in some way. Apart from other considerations, a form is always better comprehended if we reproduce it on paper. As a general principle, no two kinds of animals leave the same track. As a matter of fact, no two individuals leave the same trail. Just as surely as there are differences in size and disposition, so there will be corresponding differences in its trail; but this is refining beyond the purposes of practicability in most cases, and for the present we may be satisfied to consider it a general rule that each species leaves its own clearly recognizable track. One of my daily pastimes when the snow is on the ground—which is the easiest and ideal time for the trailer, and especially for the beginner—is to take up some trail early in the morning and follow it over hill and dale, carefully noting any change and every action as written in the snow, and it is a wonderfully rewarding way of learning the methods and life of an animal. The trail records with perfect truthfulness everything that he did or tried to do at a time when he was unembarrassed by the nearness of his worst enemy. The trail is an autobiographic chapter of the creature's life, written unwittingly, indeed, and in perfect sincerity.

Whenever in America during the winter I have found myself with time to pass between trains, I endeavor to get out into the country, and rarely fail to find and read one of these more or less rewarding chapters, and thus get an insight into the life of the animal, as well as into the kinds that are about; for most quadrupeds are nocturnal, and their presence is generally unsuspected by those who do not know how to read the secrets of the trail.

Dog and Cat

The first trails to catch the eye and the best for first study are those nearest home. Two well-marked types are the tracks

of cat and dog. Most anatomists select the cat as the ideal of muscular and bony structure. It is the perfect animal, and its track also is a good one to use for standard.

In these separate prints the roundness of the toe-pads tells the softness; their spread from each other shows the suppleness of the toes; the absence of claw-marks tells of the retractability of these weapons. The front and hind feet are equal in length, but the front feet are broader. This is the rule among true quadrupeds. The series of tracks—that is, its trail—shows the manner of the cat in walking. In this the animal used apparently but two legs, because the hind foot falls exactly on the trail made by the front foot, each track being really doubled. This is perfect tracking. There are several advantages in it. Every teamster knows that a wagon whose hind wheels do not exactly follow the front wheels is a very bad wagon to haul in sand, snow, or mud. The trail for it has to be broken twice, and the labor increased, some say, 50 per cent. This same principle holds good in the case of the cat track; by correct following the animal moves more easily. But there is still a more important reason. A hunting cat sneaking through the woods after prey must keep its eyes on the woods ahead or on the prey itself. At the very most it may pick out a smooth, safe, silent place for its front feet to tread on. Especially at the climax of the hunt all its senses are focussed on the intended victim; it cannot select a safe spot for each hind foot in turn, even though the faintest crunch of a dry leaf will surely spoil the stalk. But there is no danger of that; the cat can see the spots selected for the front feet, and the hind feet are so perfectly trained that they seek unerringly the very same spots—the safe places that the front feet have just left. Thus perfect stepping is silent stepping, and is essential to all creatures that stalk their prey. The opposite kind of stepping is seen in very heavy animals which frequent marshy ground; to them it would be a positive disadvantage to set the hind foot in the tread of the front foot, where so much of the support has just been destroyed. The ox illustrates this. These principles are applicable in geology, where the trails are the only biographical records of certain species. From the manner of setting the feet we can distinguish the predacious and the marsh-frequenting quadrupeds.

The next track likely to be seen is that of the dog. In this the harder, less pliant foot and the non-retractile claws are clearly seen. But the trail shows the dog is not a correct walker. His tracks are "out of register" as a printer

would say. And he has a glaring defect—the result no doubt of domestication, of long generations on pavements and in houses—he drags his toes. All these things contribute to make the dog a noisy walker in the woods.

Wolf

It is well at this time to compare the track of the dog with that of the wolf. I have made dozens of drawings, casts, prints, photographs, and studies of wolf and dog tracks; and have not found a single reliable feature that will distinguish them. One hunter says the wolf has the relatively small outer toes. Yes, sometimes; but not when compared with a collie. Another says that the wolf's foot is longer; but not when compared with that of a greyhound, staghound, or lurcher. Another, the wolf's foot is larger; yet it will not rank in size with that of a St. Bernard or a Great Dane. The wolf lifts his feet neatly without dragging his toes; but so do many dogs, especially country dogs. Thus all these diagnostics fail. On the whole a wolf is a better walker than a dog. His tracks do usually register, but not always, and in some wolves rarely.

If a wolf-track in the snow be followed for a mile or two, it will be found to go cautiously up to an unusual or promising object. It is obviously the trail of a suspicious, shy creature while the dog-trail is direct, and usually unafraid. But this does not apply to the dogs which poach or kill sheep. There is therefore no sure means of distinguishing them, even in the wilderness. One can only judge by probabilities.

I have often heard inexperienced hunters boast that they could "tell them every time"; but old hunters usually say, "No man can tell for sure."

Rabbits and Hares

America is well provided with rabbits and hares. A score or more of species are now recognized, and two very well-known types are the cottontail of the woods and the jack-rabbit of the plains.

The cottontail is much like an English rabbit, but it is a little smaller, has shorter ears, and the whole under part of the tail is glorified into a fluffy, snowy powder-puff. It leads the life of a hare, not making burrows, but entering burrows at times under the stress of danger. The track of a New England cottontail is given in Illustration 1.

As the cottontail bounds, the hind feet track ahead of the front feet, and the faster he goes the faster ahead his hind feet get. This is true of all quadrupeds that bound, but is more obvious in the rabbits, because the fore and hind feet differ so much in size.

The jack-rabbit of Kansas is the best known of the long-eared jacks. His trail, compared with that of the cottontail, would be as in Illustrations 2 and 3.

The greater size of the marks and the double length of the bounds are the obvious but not important differences, because a young jack would come down to the cottontail standard. The two reliable differences I found are:

First, the jack's feet are rarely paired when he is bounding at full speed, while the cottontail pairs his hind feet but not his front ones. (Animals which climb usually pair their front feet in running, just as tree-birds hop when on the ground.)

Second, the stroke that is shown (x in Illustration 2) is diagnostic of the southern jack-rabbit; it is the mark made by the long hanging tail.

Each of the four types of hare common in the temperate parts of America has its own style of tail and fashion of wearing it:

The northern or white-tailed jack carries his snowy-white tail out straight behind, so its general pure-white is visible;

The southern or black-tailed jack has his tail jet-black on the upper part, and he carries it straight down;

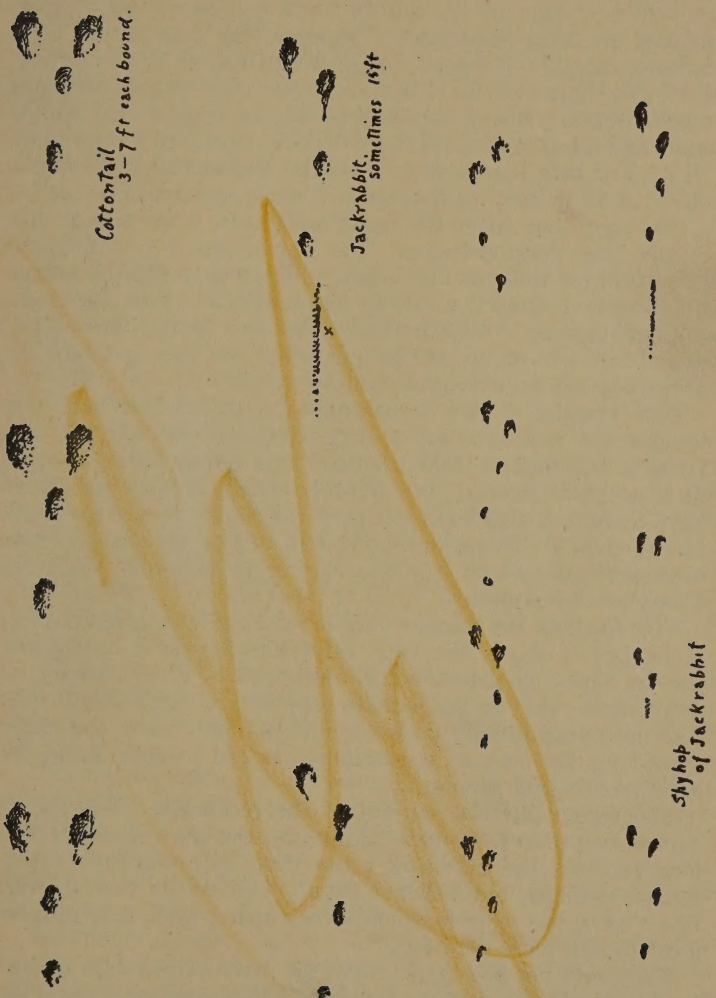
The varying hare has an inconsequent, upturned tuft, like a tear in his brown pantaloons, showing the white undergarment;

The cottontail has his latter end brown above, but he keeps it curled up tight on his back, so as to show nothing but the gleaming white puff of cotton on a helpful background of rich brown. The cottontail's tail never touches the ground except when he sits down on it.

The most variable features of any animal are always its most specialized features. The jack-rabbit's tail-piece is much subject to variation, and the length and depth of the little intertrack-ial dash that it makes in the snow is a better guide to the individual that made it than would be the tracks of all four feet together.

Fox

Of more general interest perhaps is the track of the fox. I have spent many days—yes, and nights—on the trail.



No. 1 Cottontail No. 2 Jack-rabbit No. 3 No. 4

following, following patiently, reading this life of the beast, using notebook at every important march and change. Many an odd new sign has turned up to be put on record and explained by later experience. Many a day has passed with nothing tangible in the way of reward; then, as in all hunting, there has come a streak of luck, a shower of facts and abundant reward for the barren weeks gone by, an insight into animal ways and mind that could not have been obtained in any other way. For here it is written down by the animal itself in the oldest of all writing—a chapter of the creature's normal life.

One day, soon after the snow had come, I set out on one of the long decipherments. The day before I had followed a fox-trail for three or four miles, to learn only that he tacked up wind and smelled at every log, bump, and tree that stuck through the snow; that he had followed a white hare at full speed, but was easily left behind when the hare got into his ancient safety—the scrubby, brushy woods.

This morning I took up another fox-trail. The frost was intense, the snow was dry and powdery and as each foot was raised it fell back; so that the track was merely shapeless dimples in the whiteness. No tell-tale details of toes and claws were there, but still I knew it for a fox-trail. It was too small for a coyote. There were but two others that might have been confounded with it; one a very large house-cat, the other a very small house-dog.

The fox has the supple paw of the cat. It spreads even more, but it shows the long, intractile claws. As a stepper the fox ranks close to the cat. His trail is noted also for its narrowness—that is, the feet are set nearly in one straight line. This in a trail usually means a swift animal; while the badly spread marks, seen at a maximum in the badger, stand for great but sluggish strength.

The region put the cat out of the reckoning. Besides, at one or two places the paw had grazed the snow, showing two long furrows, the marks of claws that do not sheathe: dog-marks, perhaps, but never a cat's. The marks were aligned like a cat's, but were fourteen inches apart, while it is rare for a cat to step more than ten.

They were not dog-marks: first, the probabilities were against it; second, the marks were nearly in a line, showing a chest too narrow for a dog. Then the toes did not drag, though there was four inches of snow. The register could not be distinguished but there was one feature that settled all doubt—the big, soft, shallow marks of the fox's brush, sometimes sweeping the snow

at every yard, sometimes not at all for fifty steps, and telling me with certainty, founded in part on the other things—"This is the trail of a fox."

Which way is he going? is the next question, not easy to answer when the toe-marks do not show; but this is settled by the faint claw-marks already noted. If still in doubt, I can follow till the fox chances on some place under a thick tree or on ice where there is very little snow, and here a distinct impression may be found.

The Fox's Hunt

For a mile or two I followed my fox. Nothing happened. I got only the thought that his life was largely made up of nose investigation and unfavorable reports from the committee in charge. Then we came to a long, sloping hollow. The fox trotted down this, and near its lower end he got a nose report of importance for he had swung to the right and gone slowly—so said the short steps—zigzagging up the wind. Within fifteen feet, the tacks in the course shortened from four or five feet to nothing, and ended in a small hole in a bank. From this the fox had pulled out a common, harmless garter snake, torpid, curled up there doubtless to sleep away the winter. The fox chopped the snake across the spine with his powerful meat-cutters, killed it thus, dropped it on the snow, and then, without eating a morsel of it as far as I could see, he went on with his hunt. (Illustration 5 A.)

Why he should kill a creature that he could not eat I could not understand. I thought that ferocious sort of vice was limited to man and weasels, but clearly the fox was guilty of the human crime.

The dotted guide led me now, with many halts and devious turns, across a great marsh that had doubtless furnished many a fattened mouse in other days, but now the snow and ice forbade the hunt. On the far end the country was open in places, with clumps of timber, and into this, from the open marsh, had blown a great bank of soft and drifted snow.

Manitoban winters are not noted for their smiling geniality or profusion of outdoor flowers. Frost and snow are sure to come early and continue till spring. The thermometer may be for weeks about zero point. It may on occasion dip down to thirty, yes, even forty, degrees below, and whenever with that cold there also comes a gale of wind, it conjures up the awful tempest of the snow that is now of world-wide fame as—the

blizzard. The blizzard is a terror to wild life out on the plains. When it comes the biggest, strongest, best clad, rush for shelter. They know that to face it means death. The prairie chickens or grouse have learned the lesson long ago. What shelter can they seek? There is only one—an Eskimo shelter—a snow house. They can hide in the shelter of the snow.

No. 5. The record of the fox's hunt

As the night comes, with the fearful frost and driving clouds of white, the chickens dive into a snowdrift; not on the open plain, for there the snow is hammered hard by the wind, but on the edge of the woods, where tall grass spears or scattering twigs stick up through and keep the snow from packing. Deep in this the chickens dive, each making a place for itself. The wind wipes out all traces, levels off each hole and hides them well. There they remain till morning, warm and safe, unless—and here is the chief danger—some wild animal comes by during

the night, finds them in there, and seizes them before they can escape.

This chapter of grouse history was an old story to the fox and coming near the woodland edge, his shortened steps showed that he knew it for a Land of Promise. (Illustration 11 B.)

At C he came to a sudden stop. Some wireless message on the wind had warned him of game at hand. He paused here with foot upraised. I knew it, for there was his record of the act. The little mark there was not a track, but the paw-tip's mark, showing that the fox had not set the foot down, but held it poised in a pointer-dog pose, as his nose was harkening to the tell-tale wind.

Then from C to D he went slowly, because the steps were so short, and now he paused: the promising scent was lost. He stood in doubt, so said the tell-tale snow in the only universal tongue. Then the hunter turned and slowly worked toward E, while frequent broad touches in the snow continued the guarantee that the maker of these tracks was neither docked nor spindle-tailed.

From E to F the shortened steps, with frequent marks of pause and pose, showed how the scent was warming—how well the fox knew some good thing was near.

At F he stood still for some time with both feet set down in the snow, so it was written. Now was the critical time, and straight up the redolent wind he went, following his nose, cautiously and silently as possible, realizing that now a single heedless step might spoil the hunt.

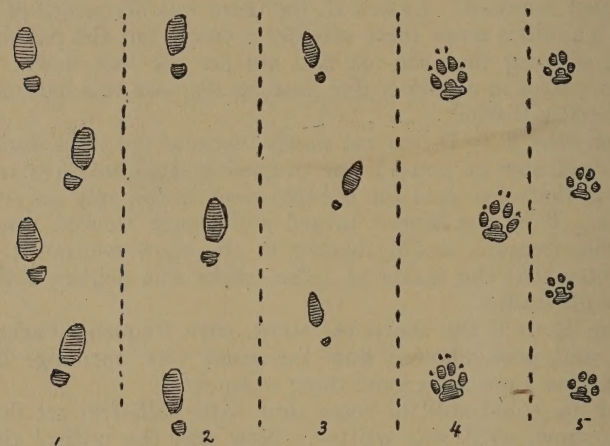
Closing In

At G were the deeply imprinted marks of both hind feet, showing where the fox sprang just at the moment when, from the spotless snowdrift just ahead, there broke out two grouse that had been slumbering below. Away they went with a whirr, whirr, fast as wing could bear them; but one was just a foot too slow; the springing fox secured him in the air. At H he landed with him on the prairie, and had a meal that is a fox's ideal in time of plenty; and now, in deep hard winter, it must have been a banquet of delight.

Now, for the first time, I saw the meaning of the dead garter snake far back on the trail. Snake at no time is nice eating, and cold snake on a cold day must be a mighty cold meal. Clearly the fox thought so. He would rather take a chance of getting something better. He killed the snake; so it could

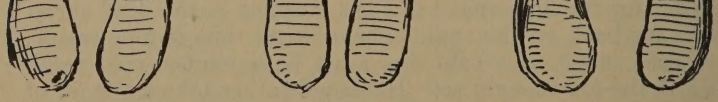
not get away. It was not likely any one would steal from him that unfragrant carcass, so he would come back and get it later if he must.

But as we see, he did not have to do so. His faith and patience were amply justified. Instead of a cold, unpleasant snake, he fed on a fine hot bird.



1. Tracks of old man.
2. " " a young hunter.
3. " " a city woman.
4. " " dog.
5. " " cat.

Thus I got a long, autobiographical chapter of fox-life by simply following his tracks through the snow. I never once saw the fox himself that made it, and yet I know—and you know—it to be true as I have told it.



Deer Sheep Pig

Books Recommended

THE LIFE HISTORIES OF NORTHERN ANIMALS. Two large volumes by Ernest Thompson Seton, dealing with habits of animals, and giving tracks of nearly all. Scribner's, 1909.

GAME ANIMALS AND THE LIVES THEY LIVE. Four large volumes by Ernest Thompson Seton. Doubleday, Page & Co.

Keeping Up the Old Trails

There is always great cause for regret when an old road with all its historical interest is abandoned.

It was undoubtedly a sad blunder by the Canadian government when it allowed the Old Cart Trail from Winnipeg to Edmonton (800 miles) and the similar trails to Calgary and Prince Albert to be closed by fences so that the traveling public now pursues a rectangular course, climbing over hills and floundering through bogs instead of taking the path selected by the pioneers for its sound foundation, easy grades and directness of line.

The authorities now begin to realize the magnitude of their blunder when it is too late.

In the United States the old Allegheny Crossings and the Overland routes are being made into national highways without regard to rectangular survey, guided by an accurate study of natural obstacles as they were in the beginning.

In other localities a similar care is manifesting itself in restoration and perpetuation of the Old *Moccasin Trails* which are of singular value to the historian as well as to the pedestrian, for they are not only the shortest lines between points but always the most beautiful. In some cases the road was selected in order to go from one noble landscape to another.

Such roadways are cheap to make and valuable to every one from the passing lover of scenery to the Forest Ranger on his daily round.

The Green Mountain Club (President Will F. Monroe) is doing noble work along this line and should receive the support of every Woodcrafter.

It is not too much to say that every famous highway in America to-day was, at first, only a moccasin trail through the woods, and that the engineers are indebted to that fact.

The Boston Post Road, the Cumberland Gap, the Monterey Drive, Raton Pass all bear testimony to the wisdom of the ancient trail-maker.

By all means, then, let us save the Old Moccasin Trails, even if it be only by recording their lines so that a wiser generation may undertake the restoration.

In England they have long had a powerful society pledged to preserve the old footways, a society which has done noble necessary service, and we should long ago have had such an organization here to do the same or similar sort of work.

Let us not neglect this work but as lovers of the woods class with forest and bird protection the Keeping of the Old Trails that it may be easier to follow the streams and to enjoy the birds and flowers of woodland and hill.

FRIENDS IN THE OUT OF DOORS

FRIENDS IN THE OUT OF DOORS

How to Know the Wild Things

All young folk want to know the ways and things of Nature. The difficulty is to know where to begin. There are so many kinds of flowers, ferns, birds, trees, grasses, bugs, insects, fish, rocks, etc., that one is confused and hardly knows where to begin his search for knowledge.

The trail is not so hard to find as it was a few years ago, for to-day there are plenty of blazes on its trees and the footway is well worn and cleared of logs—that is to say, there are plenty of good handbooks, not to speak of fellow travellers, who help by pointing to the blaze that perhaps escaped our eye, and who are wearing the pathway smooth.

But one must make a start, and it is well to get a few general rules in mind. First, take one thing at a time. Second, "Look in the book." Have a simple but comprehensive guide book (if possible one that you can own) that tells in simple, clear language the main facts. Later, you will want to go into more scientific study. Third, make a record in a notebook of what you see and either make drawings or preserve specimens. Fourth, if you have a friend "who knows" get information from him as to the specimen you have seen or have in your possession.

The best way to begin, supposing you are alone, is with the flowers. They are so easy "to catch" and preserve.

Get a good handbook of flowers, Reed's is the smallest, simplest, and best for beginners (Dana's Blanchan's, or Lounsbury's are also good) and either a big scrap album or, better, a 12 by 18 inch portfolio with twenty or thirty loose sheets of heavy white or gray paper to fit; also a tin case, any big tin will do; but you can buy a properly made one for about a dollar.

Botanical enthusiasm is always at its height just when you find the first spring flower. Suppose then, in March, you have found the liverleaf in its blue bloom.

Take up one, leaf and flower; put it in your tin case; that will keep it perfectly fresh for many hours. At home, take a bundle of old newspapers as dry as possible, lay the plant flat on

one of them, spreading the flower as you wish it to remain, put the other papers on top and then a board; last a heavy weight.

If the room and the papers are dry, the plant will be dried in three days. Then stick it on one of the sheets in the portfolio with a few strips of paper across it here and there. Then write the time and place on the sheet, also the name as soon as you can find it. And it is easy to get the name when you have the specimen. There is sure to be some botanist within reach.

If you gather and preserve half a dozen wild flowers each time you go out in the season, you very soon have the fifty that are needed to win you a *coup*.

But you are also getting something else—a lot of pleasant friends that you will remember and be glad to see as long as you live.

Of course, there are some plants that are much harder to handle than the liverleaf, such as the jewelweed, which is so juicy that it must be reset on new dry paper perhaps two or three times. Some have roots so big that they are better left off, and some are so big that one must select a small example or take only a sprig; but always get the flowers, if possible.

The Trees are also very easy because they may be found in town as well as in country. Their flowers are usually up high and come in the spring. They may be difficult to see, but if one studies the leaves, the bark, and the general shape of the tree, it will be readily identified, so that one can see and know an old friend at considerable distance. The leaves and flowers may be preserved in the same way as already described.

The best tree books are by Keeler, Apgar, Hough, Sargent, Britton, etc.

The Birds are the true love of every young naturalist, and the only reason for giving them third place is that they are harder to study than flowers and trees.

You cannot walk up to the bird, at once note its every color spot, and so find who he is. You must make hasty notes through an opera glass and then turn to a handbook, unless you have a bird-sharp friend with you or a specimen in your hand.

Therefore, oh, bird lover, begin with a notebook, a field glass, and a copy of Reed's Bird Guide. Later when you really get acquainted with the birds you will want Chapman's Handbook. These books give a sketch of the habit and range as well as a description of the plumage, nest, and eggs.

The Quadrupeds, or Animals, as they are commonly called, are the most interesting of all to most people; but are the hardest of

all to study because they are so seldom seen. Partly due to man's endless pursuit, the wild fourfoots are nearly all nocturnal now; but they are there, and far more numerous than you would imagine.

If you live in New York City, for example, you may be sure that within five miles of the City Hall you can find twenty wild quadrupeds living their lives as they always did. Thus, there are muskrats along the Bronx and Harlem rivers in the salt marshes; there are red, gray, and flying squirrels, as well as chipmunks, in most of the parks. There are plenty of woodchucks in Westchester County, although I do not know of any within the five-mile radius. Of course, there are deermice and short-tailed field mice, and jumping mice in most of the large parks or along the Jersey shore of the Hudson; and where there are mice there are weasels, and where there are weasels there are mink.

The cottontail rabbit is common in some of the large parks and in most of the near woodlands, and there are at least three species of shrew and mole within the limits.

If we go a little farther into Westchester County or Jersey, we shall enter the region of the skunk, the fox, the common deer, the coon, and the possum.

So that the New York naturalist has a large opportunity among the quadrupeds; and the resident of Chicago, Boston, or Philadelphia is just as well off; while, of course, the country girl has all the world before her.

But we seldom see the things, how are we to know that they are there?

By the tracks chiefly. The mud, the dust, or the snow will tell next morning much about the creature that passed in the night, and in time, about all that dwell near by.

"Life Histories" and "Game Animals," by Ernest Thompson Seton, are the only books that give a full account of the common animals and their tracks; but a good book on Tracks and Tracking has been published by J. Brunner.

The difficulties in the way of the student of mammals are perhaps the largest of all, but the rewards are as great; and every skull, every skin, every good track drawing, is a little victory that will give you pleasure to see as long as you live.

Insects are easily studied and preserved. A collection of butterflies, made according to instruction in the "Butterfly Book," Doubleday, Page & Company, is easily begun; while beetles and other orders of bugs, if less interesting, are yet more easily made.

In general, to those who would know the wild things: Keep a

journal of your notes, sketches, and photos; get a good handbook; collect specimens—and you have the three basic things. All the rest will be in measure of your perseverance.

SIXTY-FOUR COMMON WILD FLOWERS

Of the United States and Southern Canada

In preparing this list, Britton and Brown's "Ill. Flora of the Northern U. S. and Canada" has chiefly been consulted, but free use has been made of the works of Neltje Blanchan, Alice Lounsbury, and Chester A. Reed.

The student is advised to color each flower from nature as the opportunity occurs, using water colors over the outline given. They are grouped here to correspond with the eight plates.

1. Blue Flowers

Liverleaf, or Hepatica (*Hepatica triloba*). A lovely lilac or blue, the first of the spring flowers in most regions. Blooms in the woods from March to May, from Nova Scotia to Manitoba and southward.

Blue-eyed Grass, Blue Star, or Star Grass (*Sisyrinchium angustifolium*). A bright blue flower of the Iris family; found in rich meadows from Newfoundland to British Columbia and southward halfway to the Gulf; blooms May to August.

Bluebell, Harebell, or Hairbell (*Campanula rotundifolia*). Found on rocky places and uplands nearly everywhere south of the Middle States. Blooms all summer.

Common Violet, or Heartsease (*Viola cuccullata*). The heart shape of the leaf was held to be the proof of its power to set the heart at ease. In rich ground, Nova Scotia to Minnesota and southward nearly to the Gulf States. Blooms in spring.

Bird's foot Violet (*Viola pedata*). So called from the shape of its leaves. Dry ground; Maine to Minnesota and southward.

Lupine (*Lupinus perennis*). Dry soil, from Maine to Minnesota and southward. Early summer.

Self-heal, or Heal-all (*Prunella vulgaris*). Dry ground everywhere; blooming May to October.

Vervain, Blue Vervain, or Wild Hyssop (*Verbena hastata*). In moist ground everywhere; blooms June to September.

Chicory, or Succory (*Cichorium Intybus*). Flowers bright blue or sometimes white. The roots roasted and ground make a wholesome substitute for coffee. Originally came here from

Liver-Leaf
Blue-eyed Grass
Harebell or Bluebell
Violet
Lupine
Self-heal
Vervain
Chicory
Bird's foot Violet
Fringed Gentian
I. Blue Flowers.

Europe. Now found generally in the eastern U. S. Blooms July to October.

Fringed Gentian (*Gentiana crinita*). Bright blue; rarely white. Rich meadows, Quebec to Minnesota and southward halfway to Gulf. Blooms September and October.

II. White Flowers

Bloodroot (*Sanguinaria Canadensis*). Noted for bleeding when cut. Its root furnished the Indians with a red paint. In rich woods, from Nova Scotia to Manitoba and southward. Blooms April and May.

May Apple, or Wild Mandrake (*Podophyllum peltatum*). In low woods; southern Ontario to Minnesota and southward. Flowers in May; fruit ripe in July or August and wholesome.

Starflower (*Trientalis Americana*). In damp woods from Labrador westward and south to the Middle States. Blooms in May and June.

Indian Pipe (*Monotropa uniflora*). In rich woods nearly all U. S. and southern Canada. Blooms from June to August. The whole plant white or occasionally pink.

Saxifrage (*Saxifraga Virginiensis*). In dry rocky woods, New Brunswick to Minnesota and southward to Georgia. One of the early flowers of spring. Blooms March to May.

Ox-eye Daisy (*Chrysanthemum Leucanthemum*). In pastures throughout most of the area, as a troublesome weed from Europe. In bloom May to November. The white rays surround a bright yellow disk.

Big White Trillium, or Wake-robin (*Trillium grandiflorum*). In woods, Quebec to Minnesota and southward. Blooming in May and June.

Boneset (*Eupatorium perfoliatum*). In wet places, New Brunswick to Manitoba and southward. Blooms July to September; flowers white, but sometimes blue.

III. Pink, or White Streaked with Pink

Trailing Arbutus (*Epigæa repens*). In sandy or rocky woods; generally distributed in eastern America. Blooms in spring, March to May.

Twin-flower (*Linnea borealis*). In cold woods of the northern half of the continent and southward along the high mountains. Blooms June to August.

Spring Beauty (*Claytonia Virginica*). In moist wood throughout eastern America. Blooms March to May.

Queen Orchid, or Showy Lady's Slipper (*Cypripedium reginae*).

In swamps, Nova Scotia to Minnesota and south to Georgia. Blooms June to September.

Purple Moccasin Flower (*Cypripedium acaule*). In sandy or

rocky woods; Newfoundland to Minnesota and south to the Middle States. Blooms May and June.

Rose Pink (*Sabbatia angularis*). In rich soil New York to Ontario and south to the Gulf States. Blooms July and August.

Showy Orchis (*Orchis spectabilis*). In rich woods, New Brunswick to Minnesota and southward to the Middle States. Blooms

in April and June. Flowers violet or purple streaked with white or light purple.

Mountain Laurel (*Kalmia latifolia*). In sandy or rocky woods, New Brunswick and Ontario, southward. Blooms May and June.

Pink Azalea (*Azalea nudiflora*). In dry woods, Maine to Illinois and southward. Blooms in April and May.

IV. White, or Greenish White Flowers

Plantain, Ribgrass, or Whiteman's Foot (*Plantago major*). Everywhere in our region. Blooms all summer long as well as in spring.

Queen Anne's Lace, or Wild Carrot (*Daucus carota*). Everywhere; brought from Europe. "The original of the cultivated carrot," B. & B. Blooms all summer.

Yarrow, or Milfoil (*Achillea millefolium*). Generally distributed. Blooms June to November.

Grass of Parnassus (*Parnassia Caroliniana*). In low meadows, New Brunswick and Manitoba and southward to the Middle States. Blooms June to September.

Solomon's Seal (*Polygonatum biflorum*). In woods, New Brunswick to Ontario and southward. Blooms April to July. Its roots show seal-like impression, whence the name.

False Solomon's Seal, Wild Spikenard, or Zigzag (*Vagnera racemosa*). United States and south Canada generally. Blooms May to July.

Stickweed, Cleavers, or Bedstraw (*Galium mollugo*). Generally distributed in fields in the Northeastern States. It flowers all summer long. There is a kind with a yellow flower.

Pennsylvania or Canada Anemone (*Anemone Canadensis*). Labrador to the Plains and southward to Kansas on low ground. Blooms all summer.

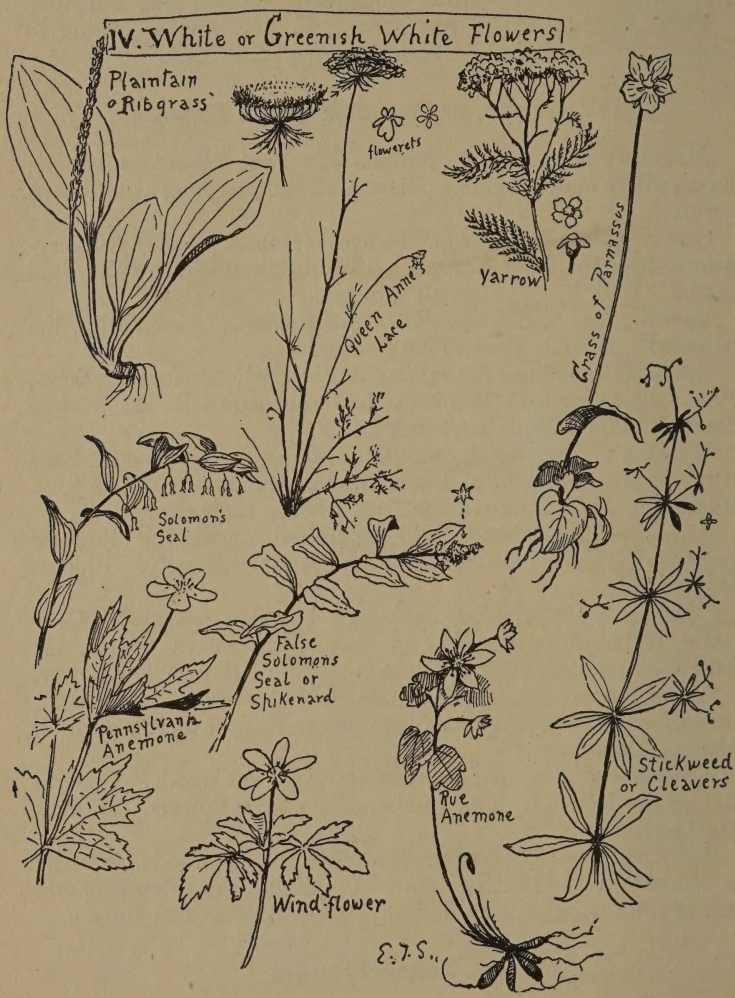
Wind flower (*Anemone quinquifolia*). In low woods. General east of the Rockies. One of the early spring flowers. Blooms April to June.

Rue Anemone (*Syndesmon thalictroides*). In woods, Atlantic to Minnesota and south to Kansas. White, but often pinkish. One of the earliest spring flowers. Blooms March to June.

V. Yellow Flowers

Celandine (*Chelidonium majus*). A straggler from Europe now common along roadsides in eastern U. S. Blooms April to September. Its juice is a strong yellow dye.

Black-eyed Susan, or Cone-flower (*Rudbeckea hirta*). In fields Quebec to the Plains and southward. Blooms May to September.

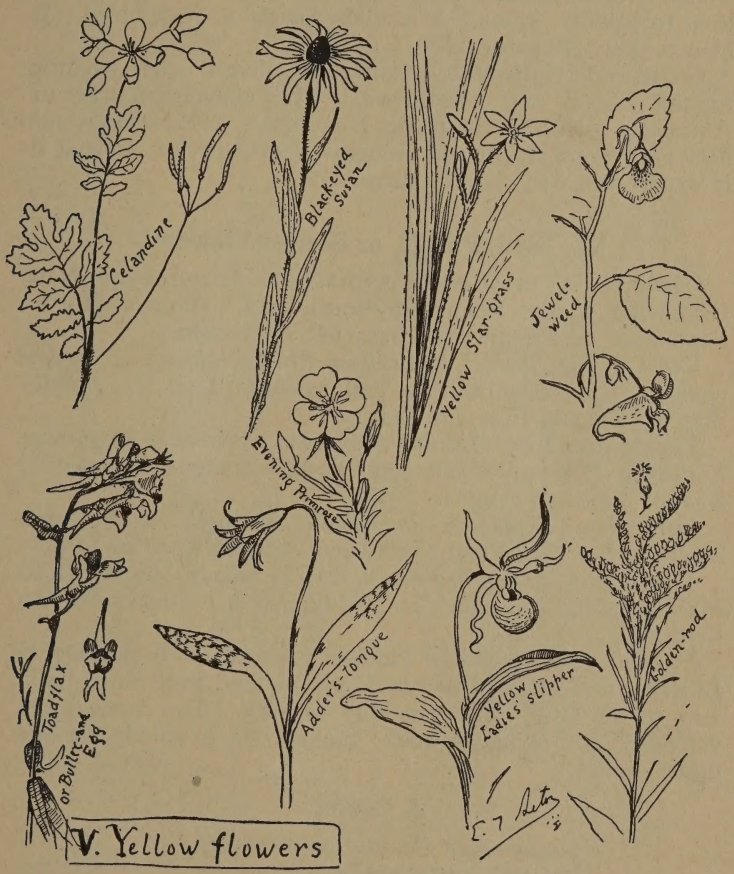


Yellow Star-grass (*Hypoxis hirsuta*). In dry soil, Maine to the Plains and southward. Blooms May to October.

Jewelweed, Touch-me-not, or Silverleaf (*Impatiens biflora*). In

moist ground, Nova Scotia to Alaska and southward. Blooms July to October.

Yellow Toadflax, or Butter and Eggs (*Linaria Linaria*). In dry waste places, Nova Scotia to Manitoba and south to the Middle States. Blooms June to October.



Evening Primrose (*Onagra biennis*). In dry soil, Labrador to the Rockies and south to Florida. Blooms from June to October. Opens chiefly at night.

Adder's Tongue, or Dog-tooth Violet (*Erythronium Americanum*). In moist woods, Nova Scotia to Minnesota and south-

ward. One of the earliest spring flowers; blooms March to May. Possibly the name was Adderstung, from the blotched appearance of the leaves.

Yellow Lady's Slipper (*Cypripedium hirsutum*). In woods, Newfoundland to British Columbia and southward at least to Middle States. A smaller variety is recognized. It blooms May to July.

Goldenrod (*Solidago Canadensis*). Found from Atlantic to the Plains and southward. The emblem flower of America. Blooms August to November. There are some fifty species of Goldenrod recognized in America, so that it is expert work to classify them.

VI. Red, Purple, or Scarlet Flowers

Cardinal Flower (*Lobelia cardinalis*). In moist soil, New Brunswick to the Plains and southward. Blooms July to September. Brilliant red or scarlet, rarely white.

Red Lily, or Wood Lily (*Lilium Philadelphicum*). In dry woods, Maine to Manitoba and southward to the Middle States. Blooms June and July.

Turk's Cap Lily (*Lilium superbum*). In wet meadows, Maine to Minnesota and southward halfway to the Gulf. Blooms July and August.

Columbine (*Aquilegia Canadensis*). In rocky woods, Nova Scotia to the Plains and southward. Blooms April to July.

Fire Pink (*Silene Virginica*). In dry woods, New York to Minnesota and southward to Middle States. Blooms May to September.

Painted Cup, or Indian Paint-brush (*Castilleja coccinea*). In moist meadows, Maine to Manitoba and southward halfway to the Gulf. Blooms May to July. The flowers are yellowish and inconspicuous; the scarlet is chiefly on the upper leaves.

A Secret

You see that flaming painted cup
The rich low wood beside;
Remember this, where'er it grows
A painted warrior died.

Pitcher Plant (*Sarracenia purpurea*). In peat bogs, Labrador to the Rockies and southward up high. It blooms in May and June.

Bee Balm, or Oswego Tea (*Monarda didyma*). In moist soil, in the East from Ontario to Georgia. Blooms July and September.

Redcap, or Purple Flowering Raspberry (*Rubus odoratus*). On

the edge of woods, Nova Scotia to Michigan and southward halfway to the Gulf. Blooms from June to August. Its blooms are worth far more than its berry, which is a thin red cap of fine gravel held together with a little fruit pulp.

Trumpet Creeper (*Tecoma radicans*). In moist woods, New Jersey to Illinois and southward to Texas. Blooms August and September.

VII. Brownish Purple Flowers

Wild Ginger (*Asarum Canadense*). In rich woods, New Brunswick to Manitoba and southward halfway to the Gulf. Blooms April and May. Its roots are flavored like ginger.

Jack-in-the-pulpit, or Indian Turnip (*Arisaema triphyllium*). In moist woods, Nova Scotia to Minnesota and southward to Gulf States. Its root is frightfully acrid and pungent when raw, but when boiled becomes wholesome food.

Red Trillium, or Smelly Wake-robin (*Trillium erectum*). In woods, Nova Scotia to James' Bay and Manitoba, thence southward halfway to the Gulf. Its color varies from dark purple to pink, green, or white. It blooms from April to June. The name Wake-robin is supposed to mean that it wakes when the robin comes. It has a very bad smell and in consequence country boys call it by simple, sincere, but very vernacular names.

Skunk Cabbage (*Spathyema foetida*). In swamps, Nova Scotia to Minnesota, southward to the Gulf States. Its bloom is the first of all the spring flowers, in moist localities, for it sends its big egg-shaped and purple-mottled bloom into the cold world as early as February, long before its leaves will venture forth. In March and April it is still in flower.

VIII. Pink Flowers

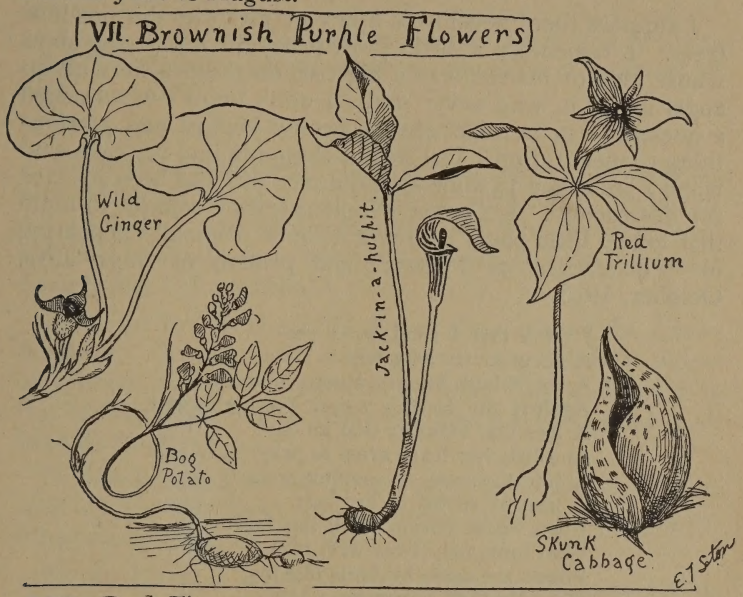
Wild Geranium, or Crane's Bill (*Geranium maculatum*). In woods, Newfoundland to Manitoba and southward nearly to the Gulf. Blooms from April to July. The name Crane's Bill is from the shape of the seed pod.

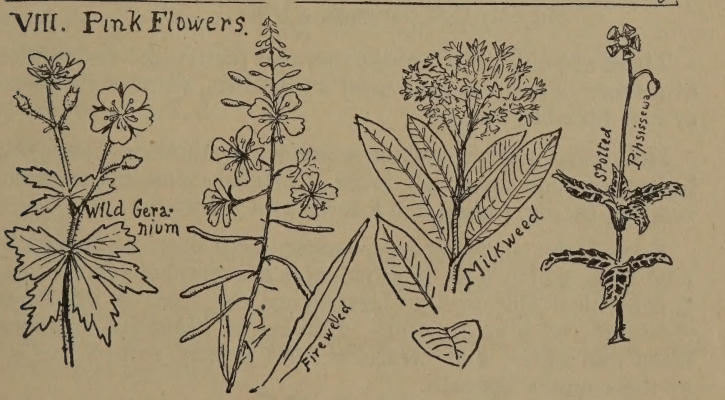
Fire Weed, Epilobium, or Spiked Willowherb (*Chamaenerion angustifolium*). In dry sunny places, Labrador to Alaska, and southward at least halfway to the Gulf. So called because of its commonly springing up after a forest fire. Blooms June to September.

Milkweed (*Asclepias purpurascens*). In dry sunny places. Massachusetts to Minnesota and southward halfway to the Gulf. Blooms June to August.

Spotted Pipsissiwa (*Chimaphila maculata*). In dry woods,

Maine to Minnesota and southward nearly to the Gulf States. Blooms June to August.





Books Recommended

Flower Guide, Chester A. Reed. Doubleday, Page & Co.
Our Early Wild Flowers, Harriet L. Keeler. Scribners.
How to Know the Wild Flowers, Mrs. Wm. Starr Dana.
How to Know the Ferns, Frances Theodora Parsons. Scribners.
Wild Flowers Every Child Should Know, Stack. Doubleday, Page & Co.

The Woodcrafter in the Forest

I suppose there never was a boy or girl who did not love trees. I remember a little prairie boy in my young days whose idea of heaven was a big tree on the prairie with an angel under it, who never said, "I don't know" when asked a question. A tree has always been a blessed and glorious thing to me. Often I feel the ax chopping into my own soul when I see it laid to some splendid tree that has been selected for destruction. Let every Woodcraft Boy commit to mind that lovely little poem by Joyce Kilmer originally appearing in "Publications of Poetry," and printed in *Boys' Life,* October, 1913.

I think that I shall never see
A poem lovely as a tree,
A tree whose hungry mouth is pressed
Against the Earth's sweet flowing breast,
A tree that looks at God all day
And lifts her leafy arms to pray,
A tree that may in summer wear
A nest of robins in her hair,
Upon whose bosom snow has lain:
Who intimately lives with rain.
Poems are made by fools like me,
But only God can make a tree.

There are only three things that can justify the destruction of a tree. These are: we need its lumber, we need its room, or it is breeding plague.

How very seldom nowadays are we justified in destroying little trees, and above all, what a fearful crime becomes the roaring, racing, raging hell known as a *forest fire.*

Four-fifths of America's forests have been destroyed by wild fires, which were in most cases preventable—in all cases lamentable. For besides destroying the trees it destroyed thousands of human beings, millions of beautiful, harmless birds and other wild creatures, and utterly ruined the soil of the country beneath.

No one with an ounce of patriotism will be responsible for a wild fire. Wild fire is the demon that we strike at in our sixth law. Oh, Woodcrafter, never, never forget your vow to face and fight all wild fire in the woods. It is far worse in

some ways than fire in town. For there you are sure to have competent firemen ready at hand, but the forest fire may spread out over a county before its presence is fully realized, and yet a single Woodcrafter on the spot when first it begins may stop it with a bucket of water, the blow of a shovel, or even of a stick.

These are some of the rules that lead to safety:

Never build a big fire. There is a certain type of madman who thinks a camp is incomplete without a "bonfire." All such folk should be in jail. No Woodcrafter ever builds a bonfire. It is wasteful, uncomfortable, unsocial, dangerous, and criminal.

Let your fire be the little fire of the cook or the Council Ring. Do not build it on piles of logs, rotten wood, or rubbish, nor near them, nor on bog. Try to have it on the bare ground; and so that you can go all around it on bare ground.

In windy weather or dangerous places dig a hole or wall up the fire with stones, sods, green logs, sand, or other things that do not burn.

Never leave a camp or the campfire without extinguishing *every spark,* using water and plenty of it, if you love your country or the good green woods. Never leave the campfire burning even for a short time without some one there to guard it.

Never throw down burning matches or lighted cigars or cigarettes. I suppose half of the fires come from this cause.

These are offered you as Woodcraft rules, offered that your acceptation may rest on love of the thing protected. But do not forget that any breach of this is listed as crime in the law of the land and may be visited by heavy pains and penalties.

But we hope that the Woodcrafter will not need to think of anything but the beauty of the blessed woods and be ready and eager at all times to do his share toward keeping these for the joy of having them.

FIFTY COMMON FOREST TREES OF EASTERN NORTH AMERICA

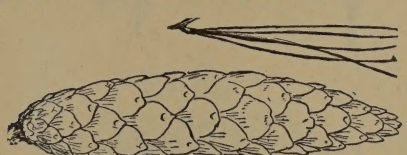
White Pine
Red Pine, Canadian Pine, or Norway Pine
Long-leaved Pine, Georgia Pine, Southern Pine, Yellow Pine
Tamarack, or Larch
White Spruce
Hemlock
Balsam Tree
Bald Cypress
Arbor-vitæ, or White Cedar
Quaking Asp, or Quiver Leaf
Black Willow
Balsam Poplar or Balm of Gilead
Cottonwood
Black Walnut
White Walnut
Pecan
Shagbark or Shellbark
Mockernut
Pignut Hickory
Gray Birch, or Aspen-leaved Birch
White, Canoe, or Paper Birch
Yellow Birch, or Gray Birch
Ironwood, or Hop Hornbeam
Blue Beech, or American Hornbeam
White Oak
Yellow Oak, or Chestnut Oak
Red Oak
Scarlet Oak
Black Oak, or Golden Oak
Pin Oak, or Swamp Oak
Beech
Chestnut
White Elm, Water, or Swamp Elm
Slippery Elm
Osage Orange, or Bow-wood
Tulip Tree, White-wood, or Yellow Poplar
Sassafras
Sweet Gum, Star-leaved Gum, or Liquidambar
Sycamore, or Buttonwood
Red-bud, or Judas Tree
Sugar Maple, Rock Maple or Hard Maple
Silver Maple or Soft Maple
Red, Scarlet, Water, or Swamp Maple
Box Elder, or Ash-leaved Maple
Basswood, White-wood, or Linden
Sour Gum, Black Gum, Pepperidge, or Tupelo
White Ash
Black Ash, Hoop Ash, or Water Ash

FIFTY COMMON FOREST TREES OF EASTERN NORTH AMERICA

White Pine, or Weymouth Pine

(*Pinus Strobus*)

A noble evergreen tree, up to 175 feet high. The lumberman's prize. Its leaves are in bunches of 5, and are 3 to 5 inches long; cones 4 to 8 inches long. Wood pale, soft, straight-grained, easily split. Warps and checks less than any other of



our timbers. A cubic foot weighs 24 lbs. (a cubic foot of water weighs 63 lbs.). Minnesota and Manitoba to Nova Scotia and Pennsylvania.

Red Pine, Canadian Pine, or Norway Pine

(*Pinus resinosa*)

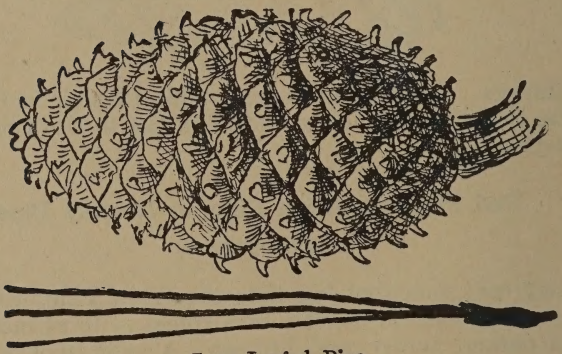
Evergreen; somewhat less than the White Pine, with leaves 4 to 6 inches long, in bunches of 2, comes $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. Wood darker, harder, and heavier. A cubic foot weighs 30 lbs. Range as above.

Long-leaved Pine, Georgia Pine, Southern Pine, Yellow Pine, or Hard Pine

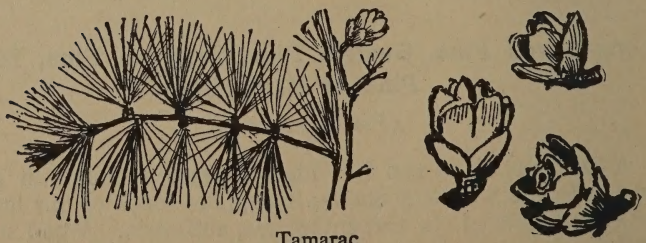
(*Pinus palustris*)

A fine tree, up to 100 feet high; evergreen; found in great forests in the Southern States; it supplies much of our lumber now; and most of our turpentine, tar, and rosin. Wood strong and hard, a cubic foot weighs 44 lbs. Its leaves are 10 to 16

Red Pine



Long-Leafed Pine



Tamarac

inches long, and are in bunches of 3's; cones, 6 to 10 inches long. Range, Virginia to Louisiana and Florida.

Tamarack, Larch, or Hackmatack

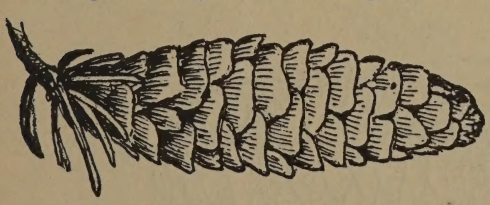
(*Larix laricina*)

A tall, straight tree of the northern swamps yet often found flourishing on dry hillsides. One of the few conifers that shed all their leaves each fall. Leaves $\frac{1}{2}$ to 1 inch long; cones $\frac{1}{2}$ to $\frac{3}{4}$ inch. Wood very resinous, heavy, and hard, "a hard, soft wood" very durable as posts. In Manitoba I have seen tamarack fence posts unchanged after twenty years' wear. It is excellent for firewood, and makes good sticks for a rubbing-stick fire. A cubic foot weighs 39 lbs. Found north nearly to the limit of trees; south to northern New Jersey and Minnesota.

White Spruce

(*Picea Canadensis*)

Evergreen; 60 to 70 or even 150 feet high. Leaves $\frac{1}{2}$ to $\frac{3}{4}$ inch long; cones $1\frac{1}{2}$ to 2 inches long, are at the tips of the branches and deciduous; the twigs smooth. Wood white, light, soft, weak, straight-grained, not durable; a cubic foot weighs 25 lbs. Its roots afford the *wattap* or cordage for canoe-building and camp use generally. North to the limit of trees east of Rockies, south to Dakota, Wisconsin, and Maine.

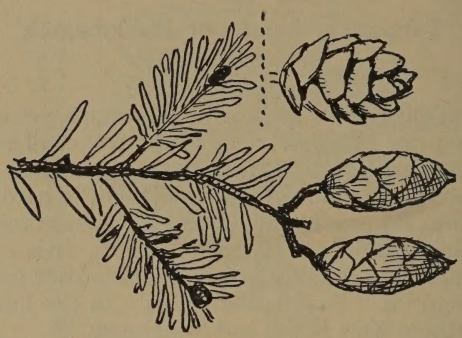


Hemlock

(*Tsuga Canadensis*)

Evergreen; 60 to 70 feet high; occasionally 100; wood pale, soft, coarse, splintery, not durable. A cubic foot weighs 26 lbs. Bark full of tannin. Leaves $\frac{1}{2}$ to $\frac{3}{4}$ inch long; cones about the same. Its knots are so hard that they quickly turn the edge of an axe or gap it as a stone might; these are probably

the hardest vegetable growth in our woods. Wisconsin to Nova Scotia and south on the mountains to Georgia.

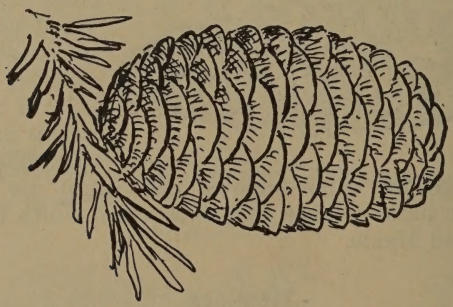


Hemlock

Balsam Tree, or Canada Balsam

(*Abies balsamea*)

Evergreen; famous for the blisters on its trunk, yielding Canada balsam which makes a woodman's plaster for cuts

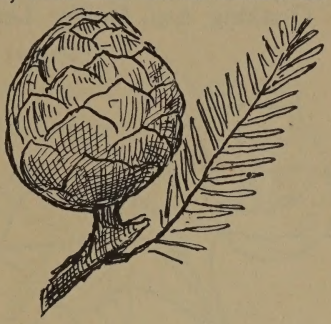


Balsam

or a waterproof cement; and for the exquisite odor of its boughs, which also supply the woodman's ideal bed. Its *flat* leafage is distinctive. Wood pale, weak, soft, perishable. A cubic foot weighs 24 lbs. New Alberta to Newfoundland and south to Virginia.

Bald Cypress

(*Taxodium distichum*)



A fine forest tree, up to 150 feet, with thin leaves somewhat like those of Hemlock, half an inch to an inch long; cones rounded about an inch through. Sheds its leaves each fall so is "bald" in winter. Noted for the knees or upbent roots that it develops when growing in water. Timber soft, weak, but durable and valuable; a cubic foot weighs 27 lbs. In low wet country of Mississippi Valley and Southeast coast.

Arbor-vitæ, or White Cedar

(*Thuya occidentalis*)

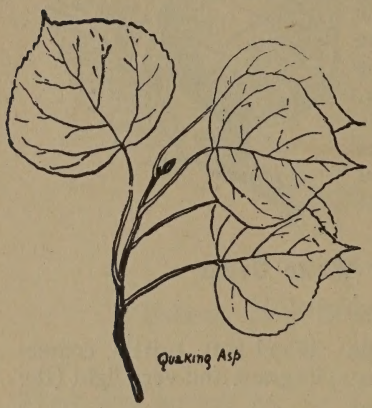
Evergreen; 50 to 60 feet high. Wood soft, brittle, coarse-grained, extremely durable as posts; fragrant and very light (the

lightest on our list). Makes good sticks for rubbing-stick fire. A cubic foot weighs only 20 lbs. The scale-like leaves are about

6 to 8 to the inch, the cones half an inch long or less. Manitoba to Nova Scotia, and Pennsylvania; south on mountains to North Carolina.

Quaking Asp, Quiver Leaf, Aspen Poplar, or Popple

(*Populus tremuloides*)

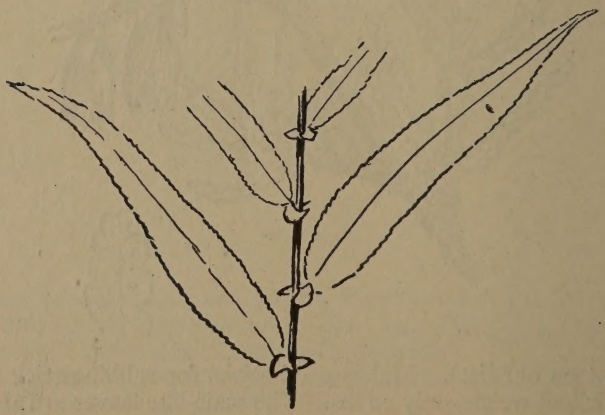


A small forest tree, but occasionally 100 feet high. Readily known by its smooth bark, of a light green or whitish color. The wood is pale, soft, close-grained, weak, perishable, and light. A cubic foot weighs 25 lbs. Good only for paper pulp, but burns well when seasoned. When green it is so heavy and soggy that it lasts for days as a fire check or back-log. Leaves $1\frac{1}{2}$ to 2 inches long. Canada and Northern States.

Black Willow

(*Salix nigra*)

The common Willow of stream-banks, usually 20 to 40 feet high, sometimes 100. Bark nearly black. Its long, narrow,

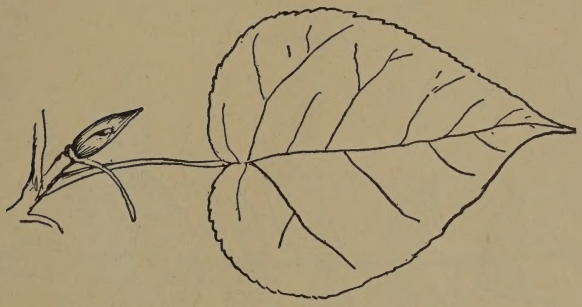


yellow-green shining leaves are sufficiently distinctive. A decoction of Willow bark and roots is said to be the best known substitute for quinine. Noted for early leafing and late shedding; leaves 3 to 6 inches long. Wood pale, weak, soft, close-grained; a cubic foot weighs 28 lbs. Manitoba to Nova Scotia and south to Gulf.

Balsam Poplar, Balm of Gilead, or Tacamahac

(*Populus balsamifera*)

Fifty or 60 feet ordinarily, but sometimes 100 feet high. Bark rough and furrowed. The great size of the buds and



their thick shiny coat of fragrant gum are strong marks. Wood much as in the preceding, but weighs 23 lbs. a cubic foot. Leaves 3 to 6 inches long. Canada and Northern States.

Cottonwood

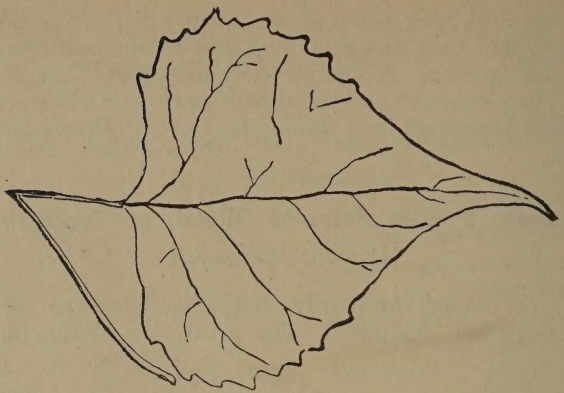
(*Populus deltoides*)

Small and rare in the Northeast. Abundant and large in West; even 150 feet high. Wood as in other poplars but weighs 24 lbs. a cubic foot. Leaves 3 to 5 inches long. Maine to Georgia and west to Alberta.

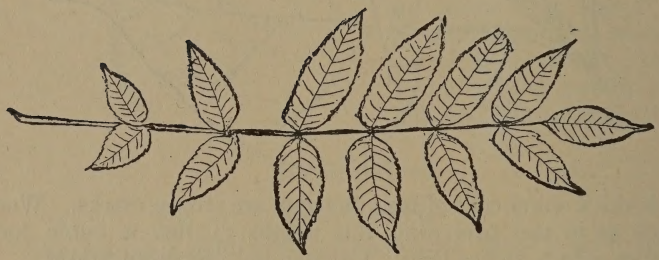
Black Walnut

(*Juglans nigra*)

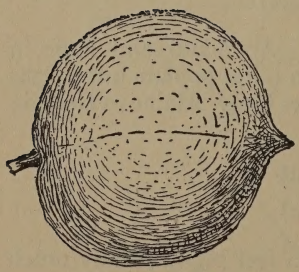
A magnificent forest tree up to 150 feet high; usually much smaller in the East. Wood a dark purplish brown or gray; hard, close-grained; strong; very durable in weather or ground



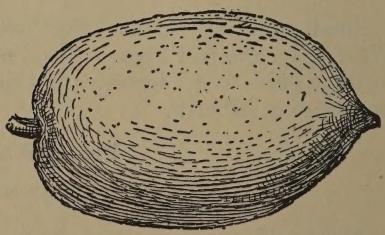
Cottonwood



Black Walnut



Fruit of black walnut.



Fruit of butternut.

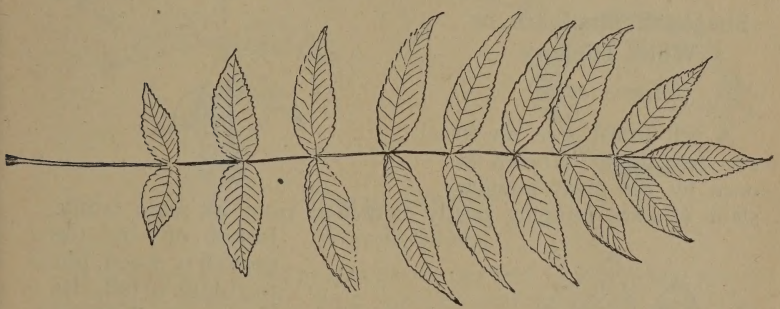
Both life size.

work, and heavy. A cubic foot weighs 38 lbs. Leaflets 13 to 23; and 3 to 5 inches long. Fruit nearly round, $1\frac{1}{2}$ to 3 inches in diameter. Massachusetts to Minnesota and south to Mississippi.

White Walnut, Oil Nut, or Butternut

(*Juglans cinerea*)

Much smaller than the last, rarely 100 feet high; with much smoother bark and larger, coarser, compound leaves, of fewer leaflets but the petioles or leaflet stalks, and the new twigs, are covered with sticky down.



The wood is light brown, soft, coarse, not strong but very enduring in weather and ground work; light; leaves 15 to 30 inches long; leaflets 11 to 19 in number and 3 to 5 inches long; fruit oblong, 2 to 3 inches long. Nova Scotia to Minnesota and south to Mississippi.

Pecan

(*Hicoria Pecan*)

A tall slender forest tree in low moist soil along streams, up to 170 feet in height: famous for its delicious nuts, they are smooth and thin shelled; fruit, oblong, cylindrical, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. Its leaves are smooth when mature; leaflets 11 to 15, and 4 to 7 inches long; wood hard and brittle, a cubic foot weighs 45 lbs. Central Mississippi Valley.

Pecan

Shagbark, Shellbark, or White Hickory

(*Hicoria ovata*)

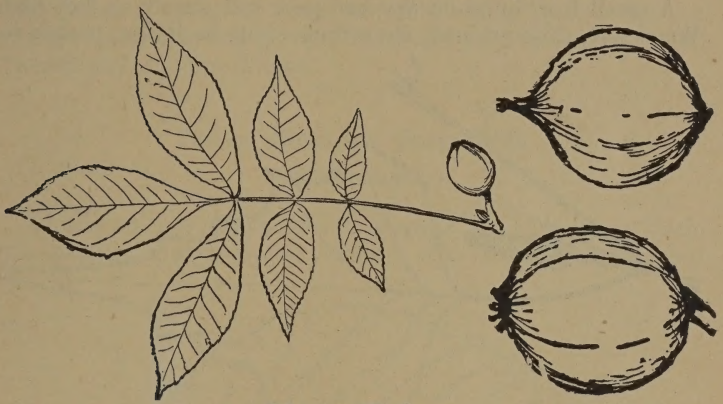
A tall forest tree up to 120 feet high. Known at once by the great angular slabs of bark hanging partly detached from its main trunk, forced off by the growth of wood, but too tough to fall. Its leaves are 8 to 14 inches long, with 5 to 7 broad leaflets. The wood is very light in color, close-grained, tough, and elastic. It makes an excellent bow; is the best of fuel. A cubic foot weighs 52 lbs. Dakota to Maine and south to Mississippi.

Mockernut, White Heart, or Big-bud Hickory

(*Hicoria alba*)

A tall forest tree, up to 100 feet. Wood much like that of Shagbark, but not quite so heavy (51 lbs.). Its bark is smooth

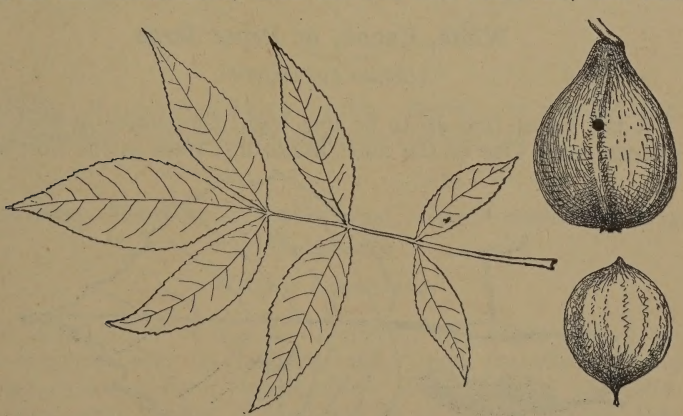
and furrowed like that of the Pignut. Its leaves are like those of the Shagbark, but it has 7 to 9 leaflets, instead of 5 to 7; it has a large terminal bud $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, and the leaves have a resinous smell. Its nut in the husk is nearly 2 inches long; the nut shell is 4-ridged toward the point, has a very thick shell, and small, sweet kernel. Maine to Oklahoma and Florida.



Pignut Hickory

(*Hicoria glabra*)

A tall forest tree; 100 and up to 120 feet high. Wood much as in the Mockernut; bark smooth and furrowed; not loose



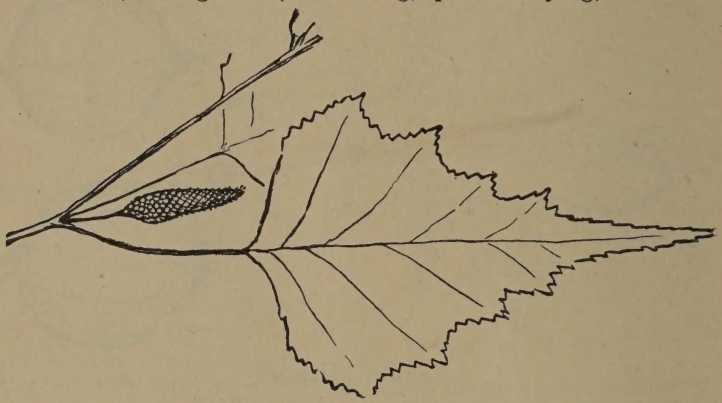
plates. Leaves 8 to 12 inches long. Nut slightly or not at all angular, very thick shelled; the pear shape of fruit is a strong

feature, $1\frac{1}{4}$ to 2 inches long. Maine to Nebraska and south to the Gulf.

Gray Birch, or Aspen-leaved Birch

(*Betula populifolia*)

A small tree found on dry and poor soil; rarely 50 feet high. Wood soft, close-grained, not strong, splits in drying, useless for

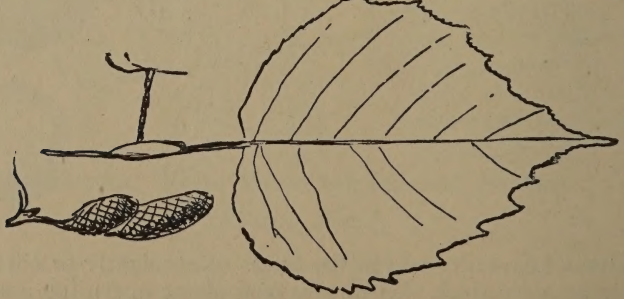


weather or ground work. A cubic foot weighs 36 lbs. Leaves 2 to 3 inches long. It has a black triangular scar at each armpit. Quebec south to Maryland.

White, Canoe, or Paper Birch

(*Betula papyrifera*)

A tall forest tree up to 80 feet high; the source of bark for canoes, etc. One of the most important trees in the northern

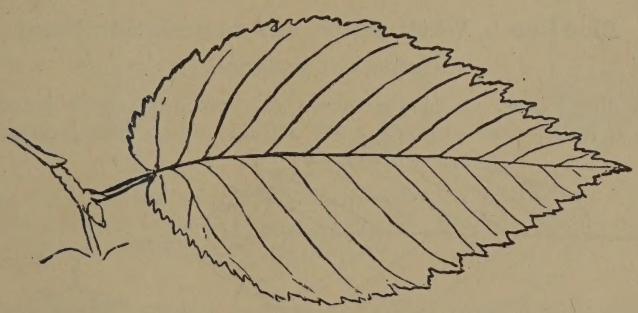


forest. Besides canoes, wigwams, vessels, and paper from its bark, it furnishes syrup from its sap and the inner bark is used as an emergency food. Every novice rediscovers for himself that the outer bark is highly inflammable as well as waterproof, and ideal for fire-lighting. Though so much like the Gray Birch, it is larger, whiter, and with but small black scars at each limb. The timber is much the same, but this weighs 37 lbs. Its leaf and catkin distinguish it; the former is 2 to 3 inches long. All Canada and south to Illinois.

Yellow Birch, or Gray Birch

(*Betula lutea*)

A forest tree, of 30 to 50 feet in height. Bark obviously birch, but shaggy and gray or dull yellow. Wood as in the others, but



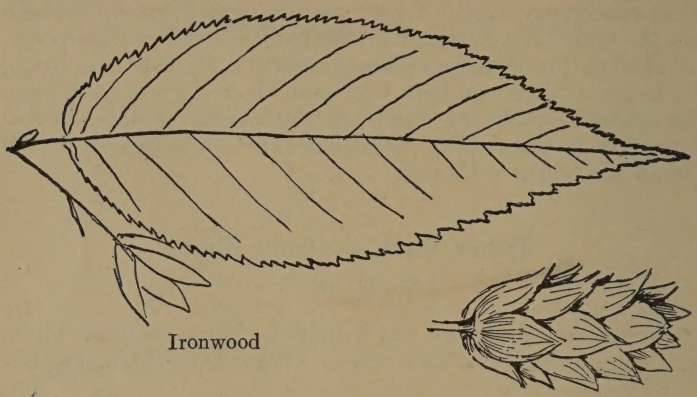
reddish. A cubic foot weighs 41 lbs. Leaves 3 to 4 inches long. Minnesota to Newfoundland and south to Virginia.

Ironwood, Hard-hack, Leverwood, Beetle-wood, or Hop Hornbeam

(*Ostyra Virginiana*)

A small tree; 20 to 30, rarely 50, feet high; named for its hardness and its hoplike fruit. Bark furrowed. Wood tough, close-grained, unsplitable. One of the strongest, heaviest, and hardest of timbers. A cubic foot weighs over 51 lbs. That is, it comes near to Shagbark Hickory in weight and perhaps goes beyond it in strength and hardness. Leaves

3 to 5 inches long. Fruit $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. Dakota to Nova Scotia and south to Gulf.

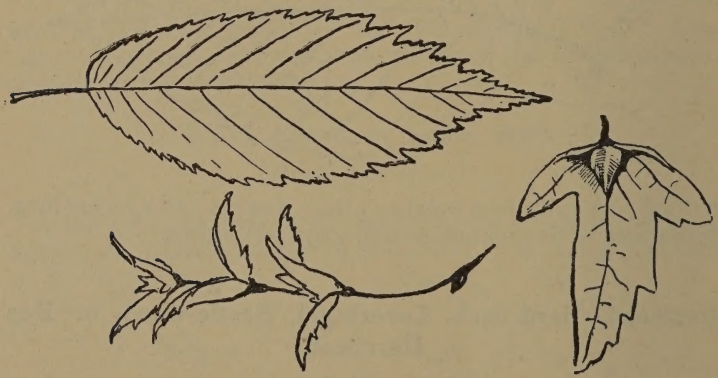


Ironwood

Blue Beech, Water Beech, or American Hornbeam

(*Carpinus Caroliniana*)

A small tree, 10 to 25, rarely 40, feet high; bark smooth. Wood hard, close-grained, very strong; much like Ironwood,



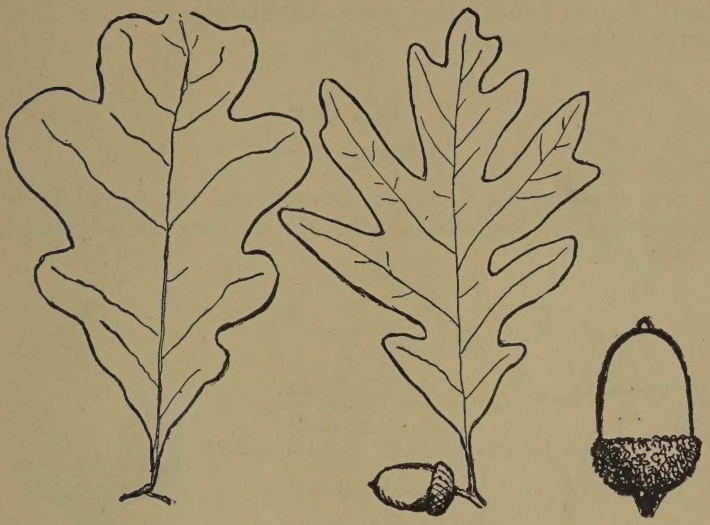
but lighter. A cubic foot weighs 45 lbs. Leaves 3 to 4 inches long. United States east of Missouri River.

White Oak

(*Quercus alba*)

A grand forest tree; over 100 feet up to 150 feet high. The finest and most valuable of our oaks. The one perfect timber

for shipbuilders, farmers, and house furnishers. Its wood is pale, strong, tough, fine-grained, durable, and heavy. A cubic foot weighs 46 lbs. I found that when green it weighed 68 lbs.

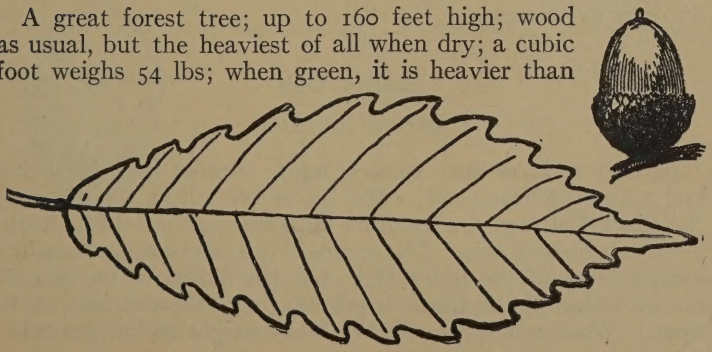


to the cubic foot and of course sank in water like a stone. Called white from pale color of bark and wood. Leaves 5 to 9 inches long. Texas to Minnesota and easterly.

Yellow Oak, Chestnut Oak, or Chinquapin Scrub Oak

(*Quercus Muhlenbergii*)

A great forest tree; up to 160 feet high; wood as usual, but the heaviest of all when dry; a cubic foot weighs 54 lbs; when green, it is heavier than

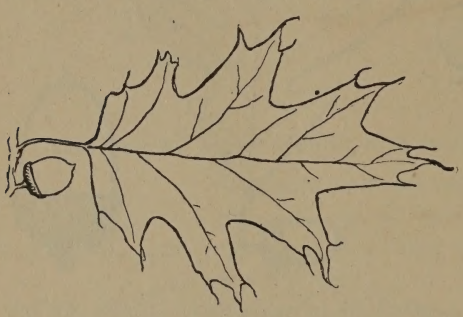


water, and sinks at once. It is much like the Chestnut Oak but its leaves are narrower, more sharply saw-edged, and its acorns much smaller, about half the size. Its acorns ripen in one season. Leaves 4 to 6 inches long. Louisiana to Iowa and easterly to Massachusetts.

Red Oak

(*Quercus rubra*)

A fine forest tree, 70 to 80, or even 140, feet high. Wood reddish brown. Sapwood darker. Hard, strong, coarse-grained,



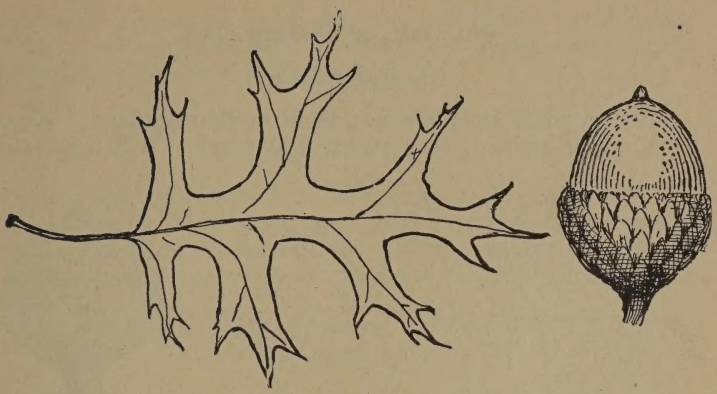
heavy. A cubic foot weighs 41 lbs. It checks, warps, and does not stand for weather or ground work. The acorn takes two seasons to ripen. Apparently all those oaks whose nuts take *two* seasons to ripen have wood that soon rots. The low, flat shape of the cup is distinctive; in fact, it has no cup, it has a saucer; leaves 4 to 8 inches long. Missouri to Minnesota and east to Atlantic.

Scarlet Oak

(*Quercus coccinea*)

Seventy to 80 or even 160 feet high. Scarlet from its spring and autumn foliage color. The leaves are a little like those of the Black Oak, but are frondlike with three or four deep, nearly even, cuts on each side. The acorns of this can be easily matched among those of the Black Oak, but the kernel of the Scarlet is white, that of the Black is yellow; they take two seasons to ripen. Wood much as in Red Oak but weighs 46 lbs. per cubic

foot. Leaves 4 to 8 inches long. Massachusetts to Georgia and Iowa.

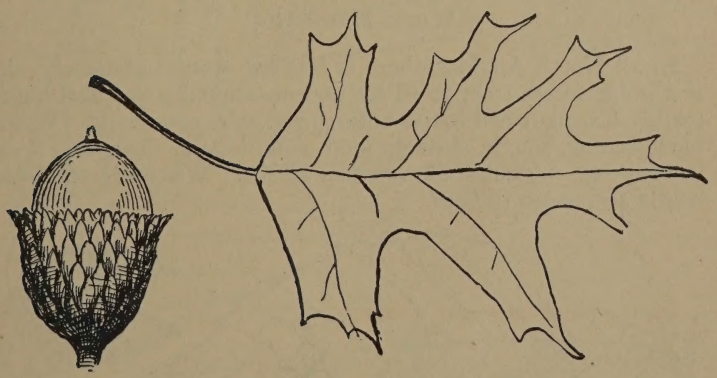


Scarlet Oak

Black Oak, Golden Oak, or Quercitron

(*Quercus velutina*)

Seventy to 80 or even 150 feet high. The outer bark is very rough, bumpy, and blackish; inner bark yellow. This yields



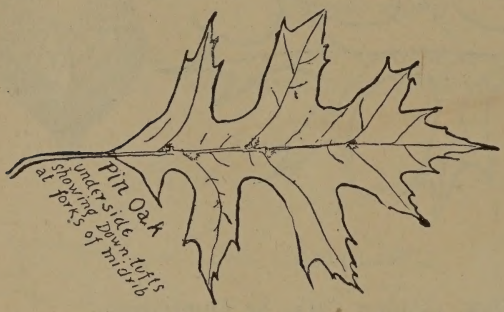
a yellow dye called *quercitron*. The leaf is of the Scarlet Oak style, but has uneven cuts and usually a large solid area in the outer half. The wood is hard, coarse-grained, checks,

and does not stand for weather or ground work. A cubic foot weighs 44 lbs. Wisconsin to Maine and south to Gulf.

Pin Oak, or Swamp Oak

(*Quercus palustris*)

Fifty to 70 or even 120 feet high, in swampy land. Wood hard, coarse-grained, very strong and tough. Will not stand

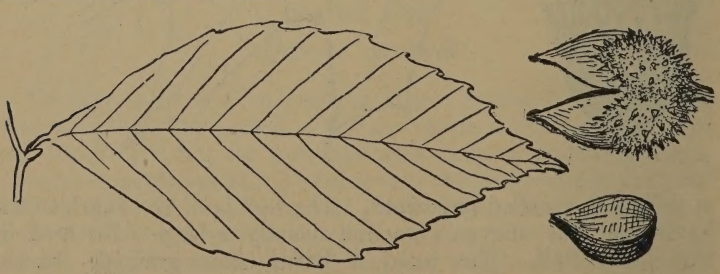


exposure next to ground. A cubic foot weighs 34 lbs. Its acorns take two seasons to ripen. Leaves 4 to 6 inches long. In moist woods and along swamp edges. Massachusetts to Iowa and Arkansas.

Beech

(*Fagus grandifolia*)

In all North America there is but one species of Beech. It is a noble forest tree, 70 to 80, and occasionally 120, feet high; readily distinguished by its unfurrowed ashy gray bark. Wood hard, strong, tough, close-grained, pale, heavy. Leaves 3 to 4 inches long. A cubic foot weighs 43 lbs. Wisconsin to Nova Scotia and south to Gulf.



Chestnut
(*Castanea dentata*)

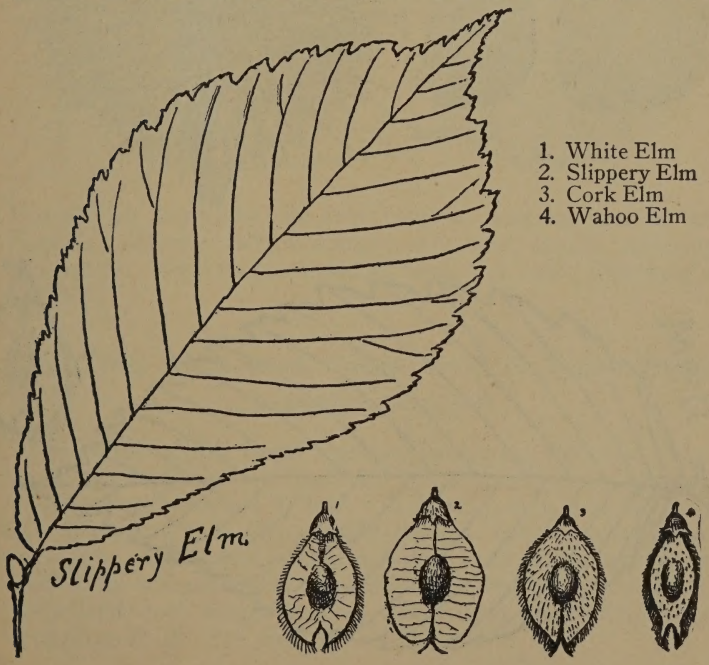
A noble tree, 60 to 80 or even 100 feet high. A cubic foot of the wood weighs 28 lbs. Leaves 6 to 8 inches long. Massachusetts to Indiana and Mississippi.

White Elm, Water, or Swamp Elm
(*Ulmus Americana*)

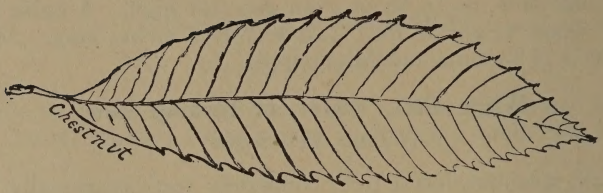
A tall, splendid, forest tree; commonly 100, occasionally 120, feet. Wood reddish brown; hard, strong, tough, very hard to split. A cubic foot weighs 41 lbs. Soon rots near the ground. Leaves 2 to 5 inches long. Manitoba to Nova Scotia and south to Gulf.

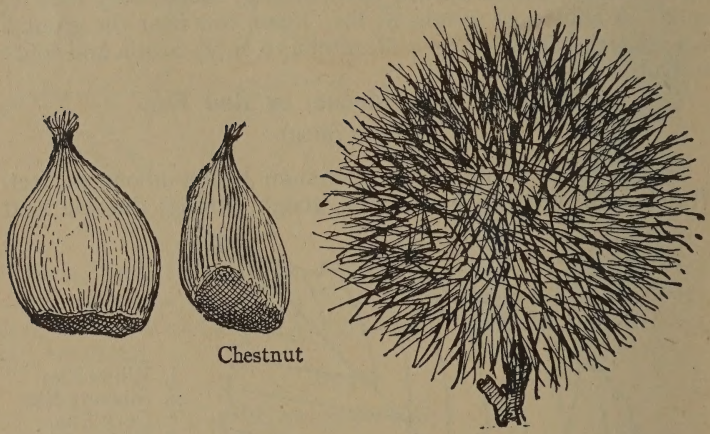
Slippery Elm, Moose, or Red Elm
(*Ulmus fulva*)

Smaller than White Elm, maximum height about 70 feet. Wood dark, reddish, hard, close, tough, strong; durable next

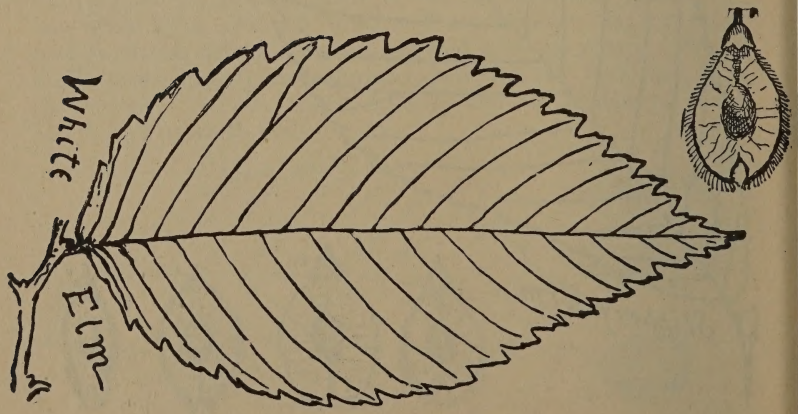


1. White Elm
2. Slippery Elm
3. Cork Elm
4. Wahoo Elm





Chestnut

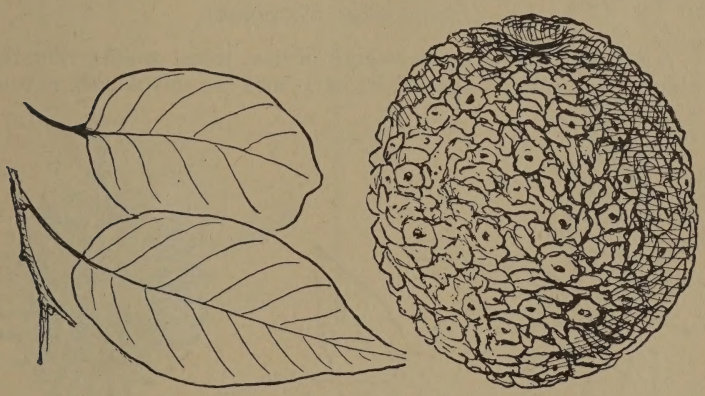


the ground; heavy; a cubic foot weighs 43 lbs. Its leaves are *larger and rougher* than those of the former. Four to 8 inches long, and its buds are hairy, not smooth. Maine to Minnesota and south to Gulf.

Osage Orange, Bodarc (Bois D'arc), or Bow-wood

(*Toxylon pomiferum*)

A small tree, rarely 60 feet high. Originally from the middle Mississippi Valley, now widely introduced as a hedge tree.



Famous for supplying the best bows in America east of the Rockies. Wood is bright orange; very hard, elastic, enduring and heavy. Leaves 3 to 6 inches long. A cubic foot weighs 48 lbs.

Tulip Tree, White-wood, Canoe Wood, or Yellow Poplar

(*Liriodendron tulipifera*)

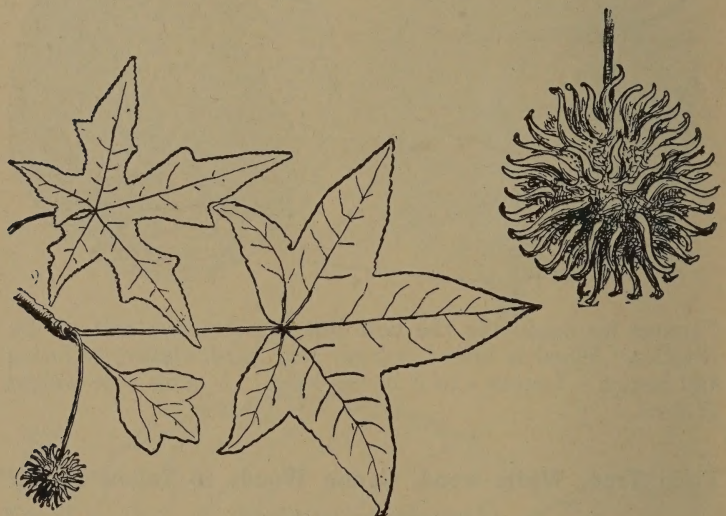
One of the noblest forest trees, ordinarily 100 feet, and sometimes 150 feet, high. Noted for its splendid, clean, straight column; readily known by leaf, 3 to 6 inches long, and its tulip-like flower. Wood soft, straight-grained, brittle, yellow, and very light; much used where a broad sheet easily worked is needed but will not stand exposure to the weather; is poor fuel; a dry cubic foot weighs 26 lbs. Mississippi to Atlantic, Lake Ontario to Gulf. See page 307.

Sassafras, or Ague Tree
(*Sassafras sassafras*)

Usually a small tree of dry sandy soil, but reaching 125 feet high in favorable regions. Its wood is dull orange, soft, weak, coarse, brittle, and light. A cubic foot weighs 31 lbs. Very durable next the ground. Leaves 4 to 7 inches long. Maine to Iowa and Texas to Atlantic See next page.

Sweet Gum, Star-leaved, or Red Gum, Bilsted, Alligator Tree, or Liquidambar
(*Liquidambar styraciflua*)

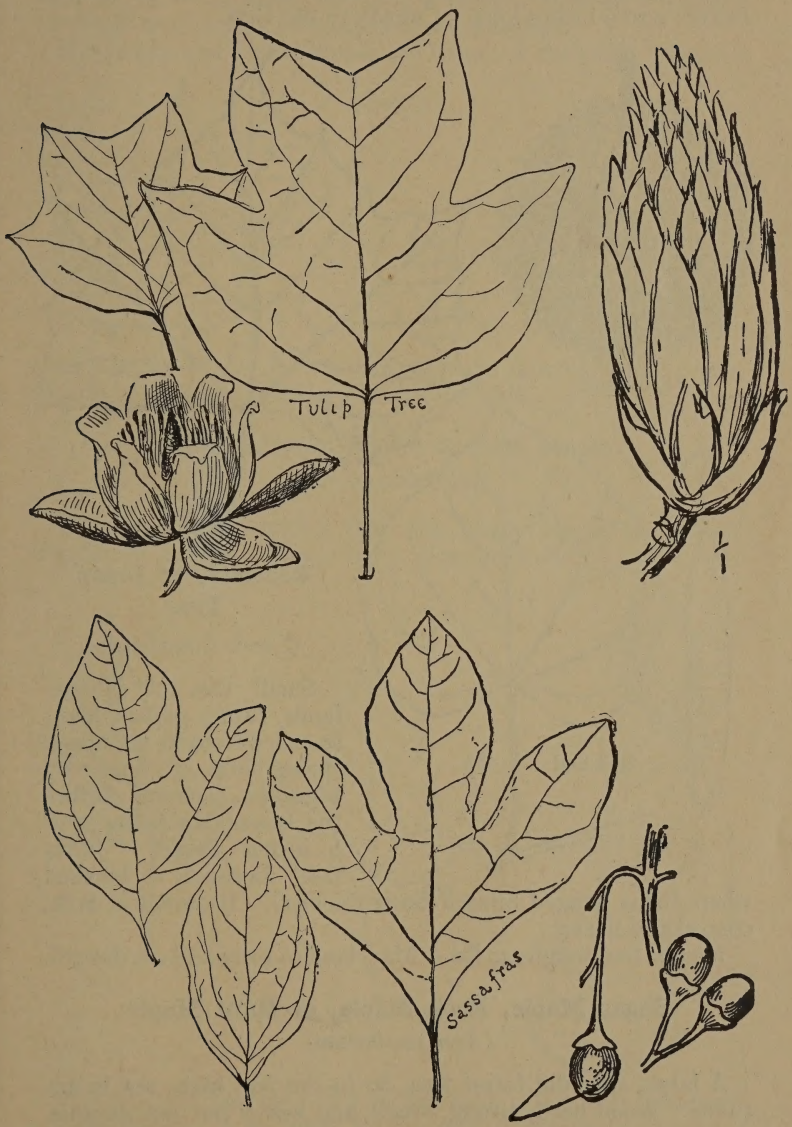
A tall tree up to 150 feet high of low, moist woods, remarkable for the corky ridges on its bark, and the unsplitable nature



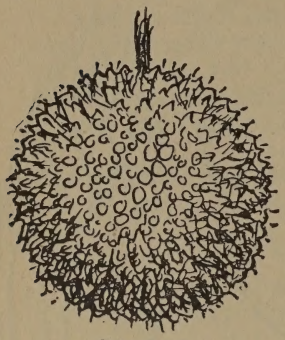
of its weak, warping, perishable timber. Heart-wood reddish brown, sap white; heavy, weighing 37 lbs. to cubic foot. Leaves 3 to 5 inches long. Massachusetts to Missouri and south to Gulf.

Sycamore, Plane Tree, Buttonball, or Buttonwood
(*Platanus occidentalis*)

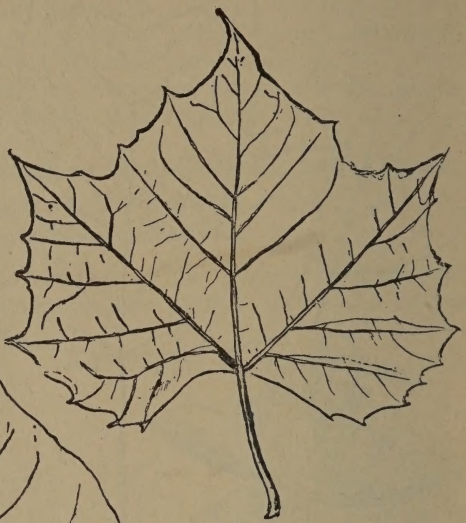
One of the largest of our trees; up to 140 feet high; commonly hollow. Wood light brownish, weak; hard to split; heavy for

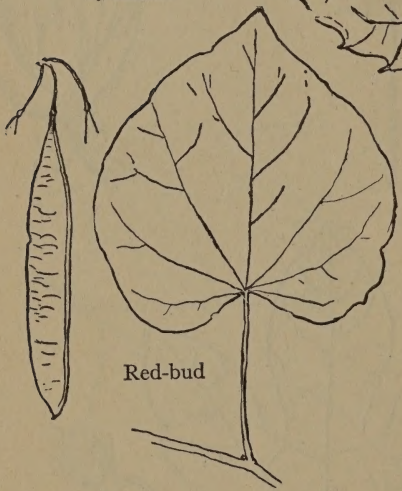

Tulip Tree
1/1
Sassafras

its strength. A cubic foot weighs 35 lbs. Little use for weather work. Famous for shedding its bark as well as its leaves. Leaves 4 to 9 inches long. Canada to the Gulf.



Sycamore





Red-bud

Red-bud, or Judas Tree

(*Cercis Canadensis*)

Small tree of bottom lands, rarely 50 feet high; so called from its abundant spring crop of tiny rosy blossoms, coming before the leaves, the latter 2 to 6 inches broad. "Judas tree" because it blushed when Judas hanged himself on it (Keeler). Its wood is dark, coarse, and heavy.

A cubic foot weighs 40 lbs. Maryland to Iowa and southward.

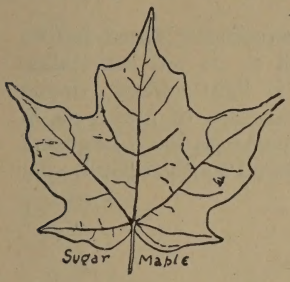
Sugar Maple, Rock Maple, or Hard Maple

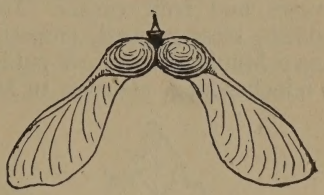
(*Acer saccharum*)

A large, splendid forest tree, 80 to 120 feet high; red in autumn. Wood hard, strong, tough, and heavy but not durable.

A cubic foot weighs 43 lbs. It enjoys with Beech, Hickory, etc., the sad distinction of being a perfect firewood. Thanks to this it has been exterminated in some regions.

Bird's-eye and curled Maple are freaks of the grain. Leaves



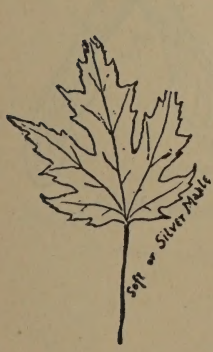


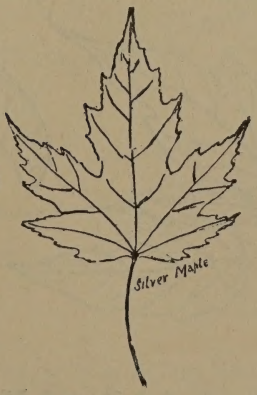
3 to 5 inches long. Its sap produces the famous maple sugar. Manitoba to Nova Scotia and south to Gulf.

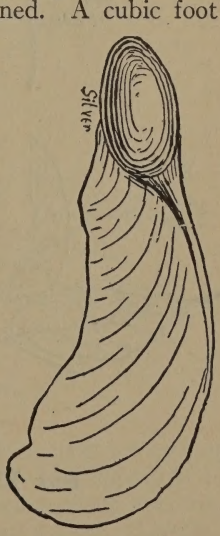
Silver Maple, White, or Soft Maple

(*Acer saccharinum*)

Usually a little smaller than the Sugar Maple and much inferior as timber. Wood hard, close-grained. A cubic foot







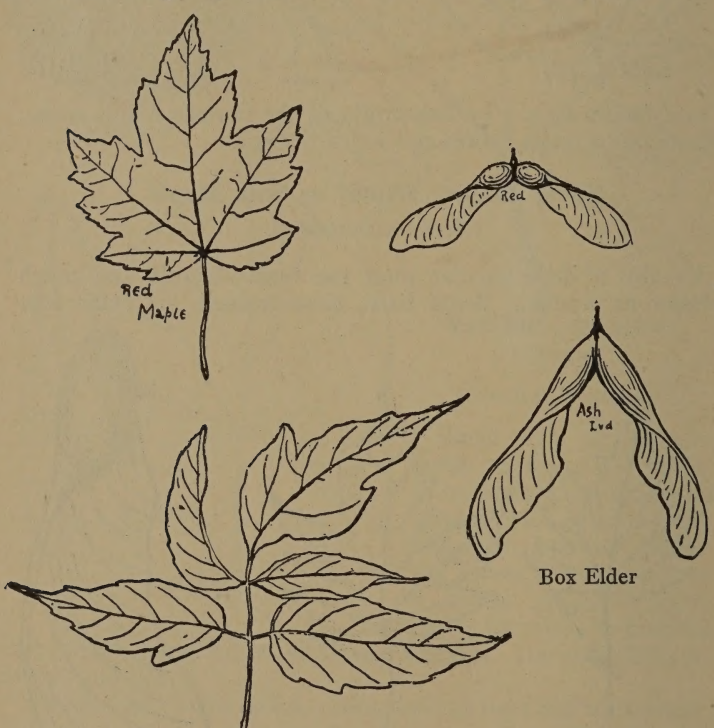
weighs 33 lbs. Leaves 5 to 7 inches long. This tree produces a little sugar. It is noted for its yellow foliage in autumn.

Nova Scotia to Minnesota and south to Oklahoma and Georgia.

Red, Scarlet, Water, or Swamp Maple

(*Acer rubrum*)

A fine tree the same size as the preceding. Noted for its flaming crimson foliage in fall, as well as its red leaf-stalks, flowers, and fruit earlier. Its wood is light-colored, tinged reddish, close-grained, smooth with varieties of grain, as in Sugar Maple; heavy. A cubic foot weighs 39 lbs. Leaves 2 to 6 inches long. Quebec to Minnesota and south to Gulf.



Box Elder, or Ash-leaved Maple

(*Acer Negundo*)

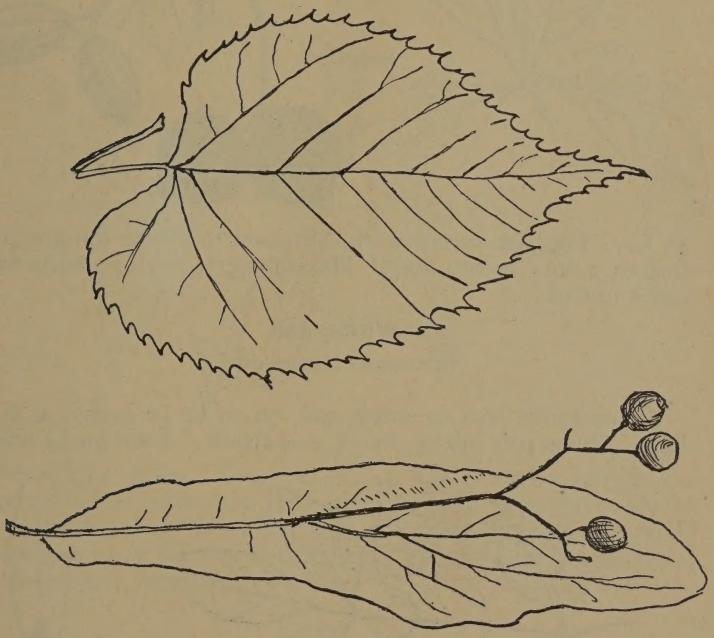
A small tree, 40 to 50 up to 70 feet high, found chiefly along streams. Wood pale, soft, close-grained, light. A cubic foot

weighs 27 lbs. Poor fuel. Makes paper-pulp. Leaflets 2 to 4 inches long. Massachusetts to British Columbia south to Mexico and Alabama.

Basswood, White-wood, Whistle-wood, Lime, or Linden

(*Tilia Americana*)

A tall forest tree 60 to 125 feet; usually hollow when old. Wood soft, straight-grained, weak, white, very light. A cubic foot weighs 28 lbs. It makes a good dugout canoe or sap trough.

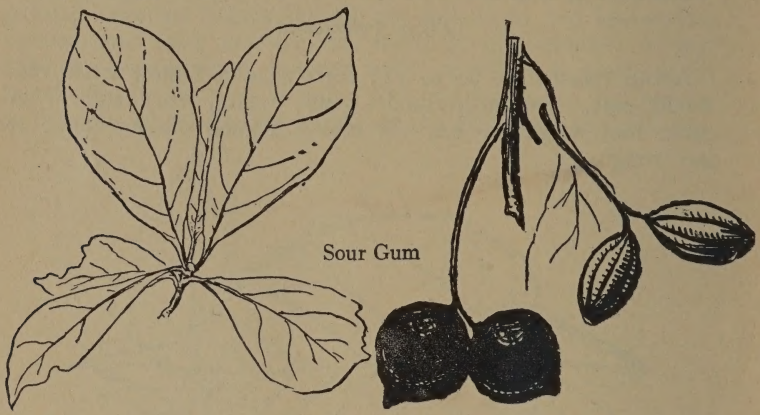


The hollow trunk, split in halves, was often used for roofing. Poor firewood, and soon rots, makes good rubbing-sticks for friction fire. Its inner bark supplies coarse cordage and matting. Its buds are often eaten as emergency food. Leaves 2 to 5 inches wide. Manitoba to Nova Scotia and south to Texas.

Sour Gum, Black Gum, Pepperidge, or Tupelo

(*Nyssa sylvatica*)

A forest tree up to 110 feet high; in wet lands. Wood pale, very strong, tough, unsplitable, and heavy. A cubic foot weighs

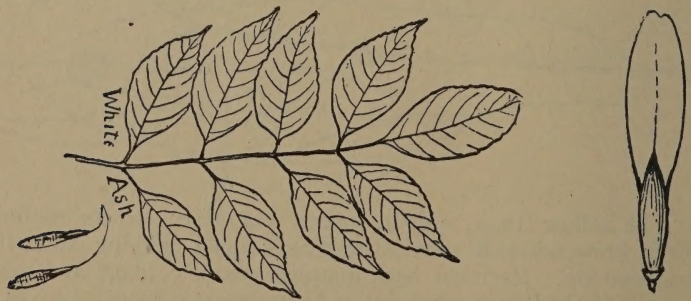


40 lbs. Used for turner work, but soon rots next the ground. Leaves 2 to 5 inches long. Massachusetts to Wisconsin and south to Gulf.

White Ash

(*Fraxinus Americana*)

A fine forest tree on moist soil; 70 to 90 or even 130 feet high. Wood pale brown, tough, and elastic. Used for handles,



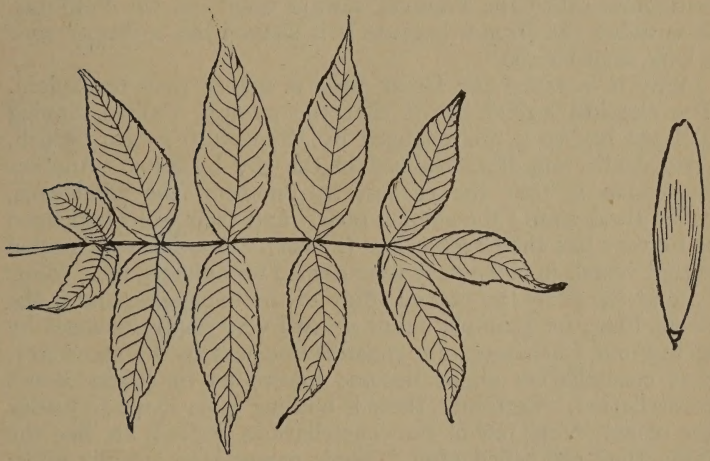
springs, bows, also arrows and spears; heavy. A cubic foot weighs 41 lbs. Soon rots next the ground. Called white for

the silvery under sides of the leaves; these are 8 to 12 inches long; each leaflet 3 to 5 inches long. Mississippi Valley and east to Atlantic.

Black Ash, Hoop Ash, or Water Ash

(*Fraxinus nigra*)

A tall forest tree of swampy places; 70, 80, or rarely 100 feet high. Wood dark brown, tough, soft, coarse, heavy. A cubic



foot weighs 39 lbs. Soon rots next to the ground. Late in the spring to leaf, and early to shed in the fall. The leaves are 12 to 16 inches long; its leaflets, except the last, have no stalk, they number 7 to 11, are 2 to 6 inches long. Nova Scotia to Manitoba and south to Virginia.

Books Recommended

TREES OF THE NORTHERN UNITED STATES, Austin C. Apgar. Price, $1.00, American Book Co.

THE FORESTER'S MANUAL, or Forest trees of Eastern North America, a fully illustrated Manual with map showing range of each species. By Ernest Thompson Seton, published by Doubleday, Page & Co., net, $.50.

OUR NATIVE TREES, by Harriet L. Keeler, 1900. Charles Scribner's Sons, New York City. Price, $2.00.

THE STARS AS THE CAMPER SEES THEM

(See Plate of Stars and Principal Constellations)

So far as there is a central point in our heavens, that point is the Pole-star, Polaris. Around this star all the stars in the sky seem to turn once in twenty-four hours.

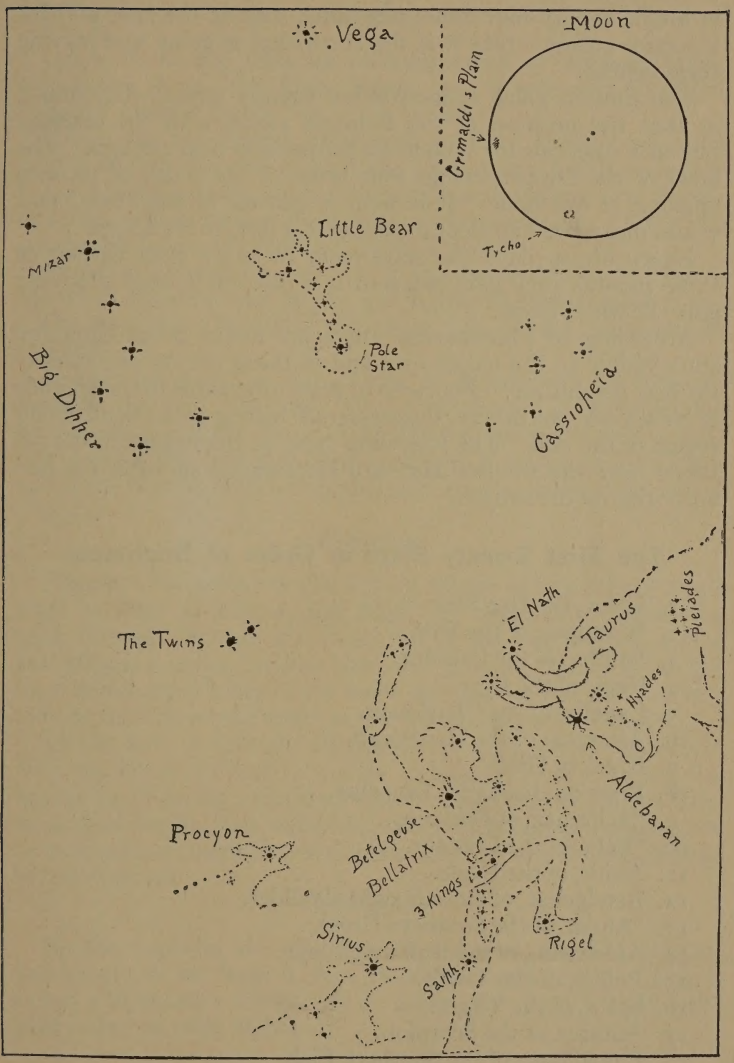
It is easily discovered by the help of the Big Dipper, or Great Bear, known to every country boy and girl in the northern half of the world. This is, perhaps, the most important star group in our sky, because of its size, peculiar form, the fact that it never sets in our latitude, and that of its stars, two, sometimes called the Pointers, always point out the Pole-star. It is called the Dipper because it is shaped like a dipper with a long, bent handle.

Why it is called the Great Bear is not so easy to explain. The classical legend has it that the nymph, Calisto, having violated her vow, was changed by Diana into a bear, which, after death, was immortalized in the sky by Zeus. Another suggestion is that the earliest astronomers, the Chaldeans, called these stars "the shining ones," and their word happened to be very like the Greek *arktos* (a bear). Another explanation is that vessels in olden days were named for animals, etc. They bore at the prow the carved effigy of the namesake, and if the Great Bear, for example, made several very happy voyages by setting out when a certain constellation was in the ascendant, that constellation might become known as the *Great Bear's* constellation. Certainly, there is nothing in its shape to justify the name. Very few of the constellations, indeed, are like the thing they are called after. Their names were usually given for some fanciful association with the namesake, rather than for resemblance to it.

The Pole-star is really the most important of the stars in our sky; it marks the north at all times; all the other stars seem to swing around it once in twenty-four hours. It is in the end of the Little Bear's tail; this constellation is sometimes called the Little Dipper. But the Pole-star, or Polaris, is not a very bright one, and it would be hard to identify but for the help of the Pointers of the Big Dipper.

The outside stars (Alpha and Beta) of the Dipper point nearly to Polaris, at a distance equal to about five times the space that separates these two stars of the Dipper's outer side.

Indian names for the Pole-star are the "Home Star," and "The Star That Never Moves," and the Big Dipper they call the "Broken Back."


Vega
Moon
Grimaldi
Plain
Tycho
Little Bear
Mizar
Pole Star
Big Dipper
Cassiopeia
The Twins
El Nath
Taurus
Pleiades
Hyades
Aldebaran
Procyon
Betelgeuse
Bellatrix
3 Kings
Rigel
Sirius
Saiph

The Great Bear is also to be remembered as the hour-hand of the woodman's clock. It goes once around the North Star in about twenty-four hours, the same way as the sun, and for the same reason—that it is the earth that is going and leaving them behind.

The time in going around is not exactly twenty-four hours, so that the position of the Pointers varies with the seasons, but, as a rule, this for Woodcraft purposes is near enough. The bowl of the Dipper swings four fifths of the width of its own opening in one hour. If it went a quarter of the circle, that would mean you had slept a quarter of a day, or six hours.

Every fifteen days the stars seem to be an hour earlier; in three months they gain one fourth of the circle, and in a year gain the whole circle.

According to Flammarion, there are about seven thousand stars visible to the naked eye, and of these twenty are stars of the first magnitude. Fourteen of them are visible in the latitude of New York, the others (those starred) belong to the South Polar region of the sky. The following table of the brightest stars is taken from the Revised Harvard Photometry of 1908, the best authority on the subject.

The First Twenty Stars in Order of Brightness

1. Sirius, the Dog Star.
2. *Canopus, of the Ship.
3. *Alpha, of the Centaur.
4. Vega, of the Lyre.
5. Capella, of the Charioteer.
6. Arcturus, of the Herdsman.
7. Rigel, of Orion.
8. Procyon, the Little Dog-star.
9. *Achernar, of Eridanus.
10. *Beta, of the Centaur.
11. Altair, of the Eagle.
12. Betelgeuze, of Orion's right shoulder.
13. *Alpha, of the Southern Cross.
14. Aldebaran, of the Bull's right eye.
15. Pollux, of the Twins.
16. Spica, of the Virgin.
17. Antares, of the Scorpion.
18. Fomalhaut, of the Southern Fish.
19. Deneb, of the Swan.
20. Regulus, of the Lion.

Other Constellations

Orion

Orion (O-ri-on), with its striking array of brilliant stars, Betelgeuze, Rigel, the Three Kings, etc., is generally admitted to be the finest constellation in the heavens.

Orion was the hunter giant who went to Heaven when he died, and now marches around the great dome, but is seen only in the winter, because, during the summer, he passes over during daytime. Thus he is still the hunter's constellation. The three stars of his belt are called the "Three Kings."

Sirius, the Great Dog-star, is in the head of Orion's Hound, the constellation *Canis Major*, and following farther back is the Little Dog star, Procyon, the chief star of the constellation *Canis Minor*.

In old charts of the stars, Orion is shown with his hounds, hunting the bull, Taurus. This constellation is recognizable by this diagram; the red star, Aldebaran, being the angry right eye of the Bull. His face is covered with a cluster of little stars called the *Hyades*, and on his shoulder are the seven stars, called *Pleiades*.

Pleiades

Pleiades (Ply-a-des) can be seen in winter as a cluster of small stars between Aldebaran and Algol, or, a line drawn from the back bottom, through the front rim of the Big Dipper, about two Dipper lengths, touches this little group. They are not far from Aldebaran, being in the right shoulder of the Bull. They may be considered the seven arrow wounds made by Orion.

Serviss tells us that the *Pleiades* have a supposed connection with the Great Pyramid, because "about 2170 B. C., when the beginning of spring coincided with the culmination of the Pleiades at midnight, that wonderful group of stars was visible just at midnight, through the mysterious southward-pointing passage of the Pyramid.

Cassiopeia

On the opposite side of the Pole-star from the Big Dipper, and nearly as far from it, is a W of five bright stars. This is called *Cassiopeia's Chair*. It is easily found and visible the year round on clear nights.

Thus we have described ten constellations from which the Woodcrafter may select the number needed to qualify, namely.

the Little Bear or Little Dipper, the Big Dipper or Big Bear, Cassiopeia's Chair, Orion, the Bull, Orion's Hound, Orion's Little Dog, the Pleiades and the Hyades; the Lyre (later).

The Moon

The moon is one fourth the diameter of the earth, about one fiftieth of the bulk, and is about a quarter of a million miles away. Its course, while very irregular, is nearly the same as the apparent course of the sun. It is a cold, solid body, without any known atmosphere, and shines by reflected sunlight.

The moon goes around the earth in twenty-seven and a quarter days. It loses about fifty-one minutes in twenty-four hours; therefore it rises that much later each successive night on the average, but there are wide deviations from this average, as, for example, the time of the Harvest and Hunter's moons in the fall, when the full moon rises at nearly the same time for several nights in succession.

According to most authorities, the moon is a piece of the earth that broke away some time ago; and it has followed its mother around ever since.

The Stars as Tests of Eyesight

In the sky are several tests of eyesight which have been there for some time and are likely to be. The first is the old test of Mizar and Alcor. Mizar, the Horse, is the star at the bend of the handle of the Dipper. Just above it is a very small star that astronomers call Alcor, or the rider.

The Indians call these two the "Old Squaw and the Pappoose on Her Back." In the old world, from very ancient times, these have been used as tests of eyesight. To be able to see Alcor with the naked eye means that one had excellent eyesight. So also on the plains, the old folks would ask the children at night, "Can you see the pappoose on the old squaw's back?" And when the youngster saw it, and proved that he did by a right description, they rejoiced that he had the eyesight which is the first requisite of a good hunter.

THE PLEIADES

One of the oldest of all eye tests is the Pleiades. Poor eyes see a mere haze, fairly good see five, good see six, excellent see seven.

The rarest eyesight, under the best conditions, see up to ten; and, according to Flammarion, the record with unaided eyes is thirteeen.

VEGA, OF THE LYRE

If one draw a line from through the back wall of the Dipper, that is, from the back bottom star, through the one next the handle, and continue it upward for twice the total length of the Dipper, it will reach Vega, the brightest star in the northern part of the sky, and believed to have been at one time the Pole-star —and likely to be again. Vega, with the two stars near it, form a small triangle. The one on the side next the North Star is called Epsilon. If you have remarkably good eyes, you will see that it is a double star.

THE NEBULA IN ORION'S SWORD

Just about the middle of Orion's Sword is a fuzzy light spot. This might do for blood, only it is the wrong color. It is the nebula of Orion. If you can see it with the naked eye, you are to be congratulated.

ON THE MOON

When the moon is full, there is a large, dark, oval spot on it to the left, as you face it, and close to the east rim, almost halfway up; this is the Plain of Grimaldi; it is about twice the size of the whole State of New Jersey; but it is proof of a pair of excellent eyes if you can see it at all.

Books Recommended

THE BOOK OF STARS, by R. F. Collins. D. Appleton & Co. Price, $1.00
AROUND THE YEAR WITH THE STARS, by Garrett P. Serviss. Harpers. Price, $1.00

BIRDS

Forty Birds That Every Woodcrafter Should Know

The Bald Eagle, or White-headed Eagle
Golden, or War Eagle
Redtailed Hawk, or Henhawk
The Barred, or Hoot Owl
Great Horned Owl, or Cat Owl
Screech Owl
Turkey Vulture, or Buzzard
Loon
Common Seagull
Pelican
Wild Duck, or Mallard
Wood Duck, or Summer Duck
Wild Goose, Canada Goose, or Honker
Swan
Bittern
Great Blue Heron
Quail, or Bobwhite
Ruffed Grouse, or Partridge
Dove
Downy Woodpecker
Flicker, or Highhole
Ruby-throated Hummingbird
Kingbird
Bluejay
Common Crow
Bobolink, or Reedbird
Baltimore Oriole
Purple Grackle, or Crow Blackbird
Snowbird
Song-Sparrow
Scarlet Tanager
Purple Martin
Barn Swallow
Mockingbird
Catbird
Common House Wren
Chickadee
Wood Thrush
Robin
Bluebird

BIRDS

Forty Birds That Every Woodcrafter Should Know

The Bald Eagle, or White-headed Eagle (*Haliæetus leucocephalus*), is the emblem of America. It is three to four feet from beak to tail, and six or seven feet across the wings. When fully adult it is known by its white head, neck, and tail, and the brown body; but when young it is brownish black, splashed and marked with dull white.

The only other eagle found in the United States is the *Golden, or War Eagle* (*Aquila chrysaëtos*). This is a little larger. When full grown it is dark brown, with the basal half of tail more or less white. The plumage of the young birds is somewhat like that of the young Bald Eagle; but the two species may always be distinguished by the legs. The War Eagle wears leggings—his legs are feathered to the toes. He is ready for the warpath. The Bald Eagle has the legs bald, or bare on the lower half.

Redtailed Hawk, or Henhawk (*Buteo borealis*). The common hawks of America are very numerous and not easy to distinguish. The best known of the large kinds is the Redtail. This is about two feet long and four feet across the wings. In general it is dark brown above and white beneath, with dark brown marks; the tail is clear reddish with one black bar across near the tip. In young birds the tail is gray with many small bars. It has four primaries notched on the inner web. The legs are bare of feathers for a space above the toes. It is common in North America east of the Rockies up to mid-Canada. It does much good, killing mice and insects. It is noted for its circling flight and far-reaching whistle or scream.

The Barred, or Hoot Owl (*Strix varia*). This Owl is known at once by the absence of horns, the black eyes, and the plumage barred *across* the chest and *striped* below that. It is about twenty inches long, in general gray-brown marked with white. It is noted for its loud hooting; it is the noisiest owl in our woods. Found in the wooded parts of America up to about latitude 50 degrees, east of the Plains.

Great Horned Owl, or Cat Owl (*Bubo Virginianus*). This is the largest of our Owls. About twenty-four inches long and four feet across the wings. It is known at once by its great ear tufts, its yellow eyes, its generally barred plumage of white, black and buff, and its white shirt front. This is the winged tiger of the woods. Noted for its destruction of game and poultry, it is found throughout the timbered parts of North America.

Screech Owl (*Otus asio*). This is not unlike the Horned Owl in shape and color but is much smaller—only ten inches long. Sometimes its plumage is red instead of gray. It feeds on mice and insects and has a sweet mournful song in the autumn—its

Bald Eagle

Redtailed Hawk or Henhawk

lament for the falling leaves. It is found in the timbered parts of North America.

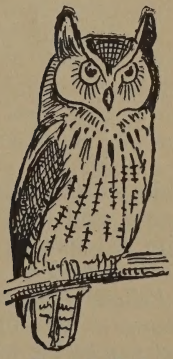
Turkey Vulture, or Buzzard (*Cathartes aura*). The Turkey Vulture is about two and a half feet long and about six feet across its wings. It is black everywhere except on the under side of the wing which is gray, and the head which is naked and red. It is known at once by the naked head and neck, and is famous for its splendid flight. It is found from Atlantic to Pacific and north to the Saskatchewan. It preys on carrion.

In the Southern States is another species—the Black Vulture

Barred or Hoot Owl.

Great Horned Owl.

Turkey Vulture or Buzzard.



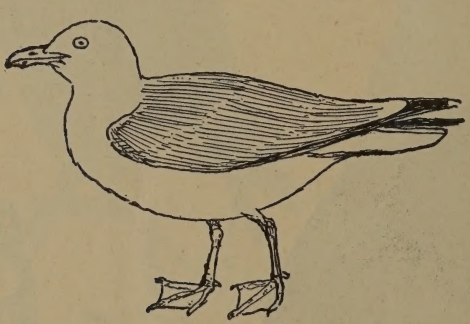
Screech Owl.

or Carrion Crow—which is somewhat smaller and wears its coat collar up to its ears instead of low on the neck; also its complexion is dusky, not red.

Loon (*Gavia immer*). The common Loon is known by its size—thirty-two inches long and about four feet across the wings—and its brilliant black-and-white plumage. It is noted for its skill as a fisher and diver. Its weird rolling call is heard on every big lake in the country.

Common Seagull (*Larus argentatus*). The common Seagull is twenty-four inches long and four feet across. The plumage is

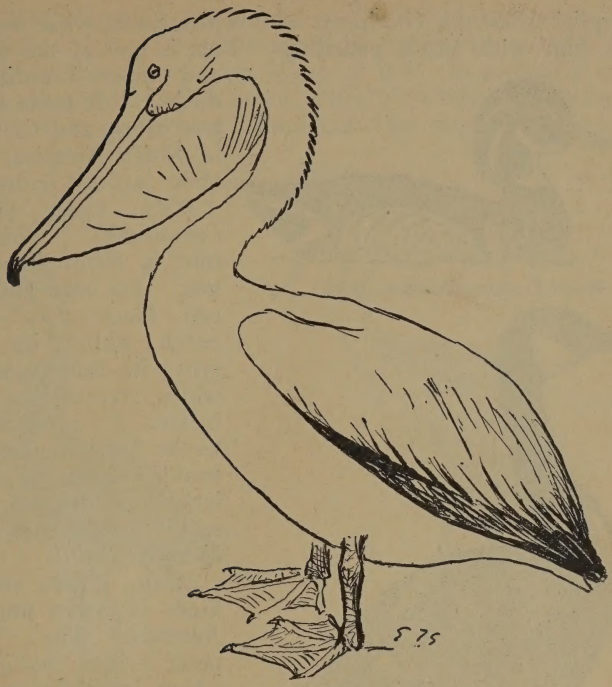
Loon



Common Seagull

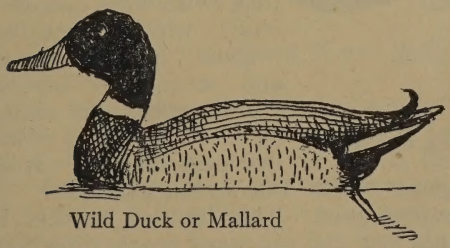
white with blue-gray back, when adult; but splashed brown when young, and with black tips to the wings. Its beak is yellow with red spot on the lower mandible. It is found throughout North America.

Pelican (*Pelecanus erythrorhynchos*). The white Pelican is known at once by its great size—about five feet long and eight feet across the wings—by its long beak, its pouch, and its feet fully webbed. Its plumage is white, but the wing tips are black. It is found in the interior of America up to Great Slave Lake.



Pelican

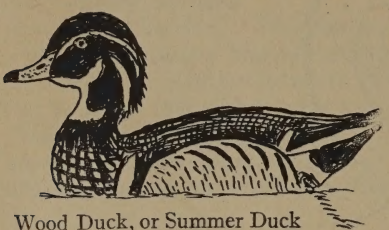
Wild Duck, or Mallard (*Anas platyrhynchos*). Of all our numerous wild ducks this is the best known. It is about twenty-three inches long. Its bottle-green head, white collar, chestnut breast, penciled sides, and curled-up tail feathers identify it. The female is streaky brown and gray. It is found in all parts of the continent, up to the edge of the forest. This is the wild duck from which tame ducks are descended.



Wild Duck or Mallard

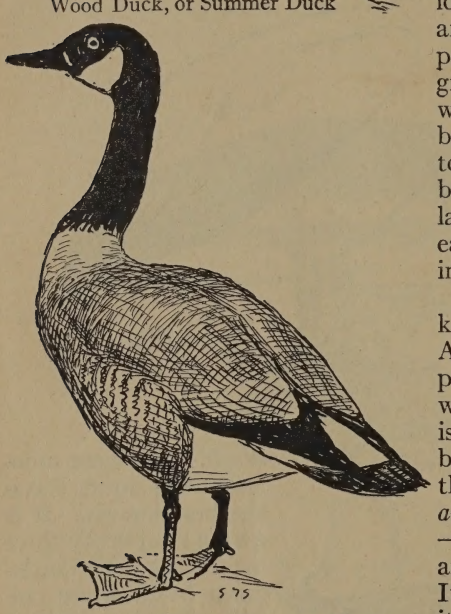
Wood Duck, or Summer Duck (*Aix sponsa*). This beautiful duck is about eighteen inches long. Its head is beautifully variegated, bottle-green and white. Its eye is red, its breast

purplish chestnut, checkered with white spots, while its sides are buff with black pencilings. This is one of the wildest and most beautiful of ducks. It nests in hollow trees and is found in North America up to about latitude 50 degrees.



Wood Duck, or Summer Duck

Wild Goose (*Branta Canadensis*). This fine bird is about three feet long. Its head and neck are black; its cheek patch white; its body gray; its tail black with white coverts above and below. It is found up to the Arctic regions, and breeds north of about latitude 45 degrees. It is easily tamed and reared in captivity.

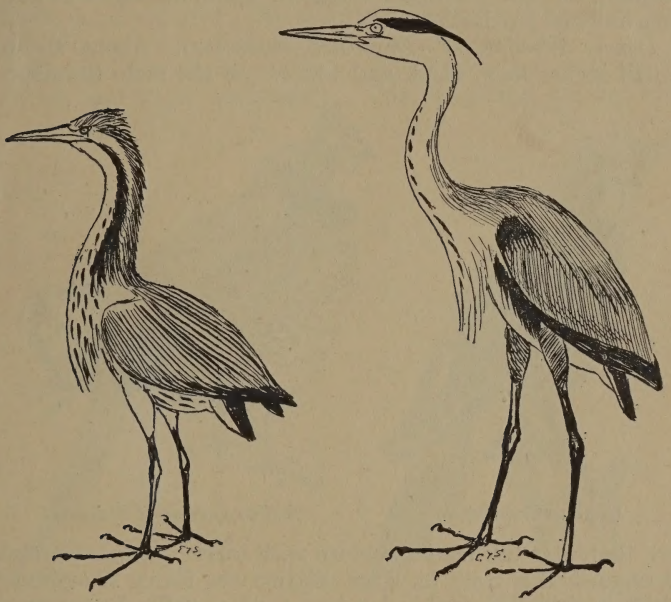


Wild Goose, Canada Goose, or Honker

Swan. There are two kinds of Swan found in America: The Trumpeter (*Olor buccinator*), which is almost extinct, is very large and has a black bill, and the Whistling Swan (*Olor Columbianus*), which is smaller—about five feet long and seven feet across. Its plumage is pure white; its bill black, with a *yellow spot* near the eye. It is found generally throughout North America but is rare now.

Bittern (*Botaurus lengtiginosus*) This bird of marshes is about twenty-eight inches long and can stand nearly three feet high. Its general color is warm yellowish brown splashed with dark brown. The black mark on the side of the neck is a strong feature, and its bright green legs and beak are very distinctive. It is famous for its guttural call notes in the marshes, and is found throughout North America up to about latitude 60 degrees in the interior.

Great Blue Heron (*Ardea herodias*). This bird is commonly called Blue Crane. Its great size will distinguish it. It is about 4 feet from tip of beak to tip of tail. In general it is blue-gray above, white below; head, white, with black hind head, crest and marks on neck and shoulders. Its thighs are chest-



Bittern Great Blue Heron

nut. It is found throughout North America to the limit of heavy timber.

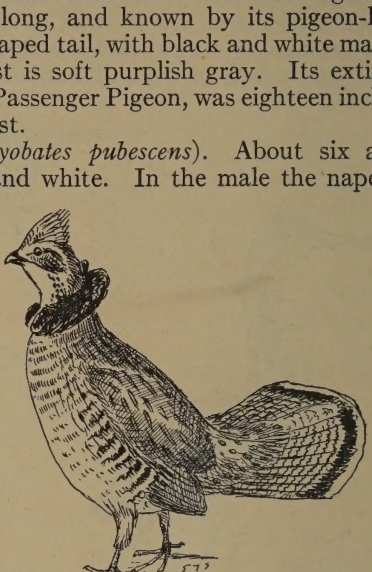
Quail, or Bobwhite (*Colinus Virginianus*). This famous and delicate game bird is about ten inches long. Its plumage is beautifully varied with reddish brown, lilac, and black markings, on a white ground. Its whistle sounds like "Bob White." It is found in eastern North America up to Massachusetts and South Ontario.

Ruffed Grouse, or Partridge (*Bonasa umbellus*). It is known by its mottled and brown plumage, its broad and beautiful fan tail, and the black ruffs on each side of the neck. It is noted for its drumming, which is usually a love song—a call to its mate. Found in the heavy woods of North America, north of the Gulf States.

Dove (*Zenaidura macroura*). This is an abundant inhabitant of the farming country as far north as wheat is now grown. It is about twelve inches long, and known by its pigeon-like look, and its long, wedge-shaped tail, with black and white marks on the feathers. Its breast is soft purplish gray. Its extinct relation, the once plentiful Passenger Pigeon, was eighteen inches long and had a reddish breast.

Downy Woodpecker (*Dryobates pubescens*). About six and a half inches long, black and white. In the male the nape is

Quail or Bobwhite



Ruffed Grouse or Partridge

red, the outer tail feathers white with black spots. Carefully distinguish this from its large relation the Hairy Woodpecker, which is nine and a half inches long and has no black spots on the white outer tail feathers. A familiar inhabitant of orchards the year round, it is found in woods throughout eastern North America.

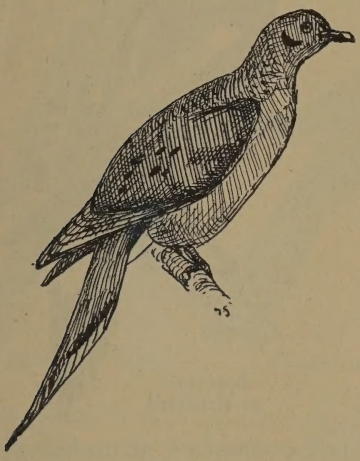
Flicker, or Highhole (*Colaptes auratus*). This large and beautiful Woodpecker is twelve inches long. Its head is ashy gray behind, with a red nape in the neck, and brown-gray in front. On its breast is a black crescent. The spots below and the little bars above are black, and the under side of wings and tail are bright yellow. The rump is white. Its beautiful plumage and loud splendid "clucker" cry make it a joy in every woodland. It is found throughout North America, east of the Rockies up to the limit of trees.

Ruby-throated Hummingbird (*Trochilus colubris*). Every one knows the Hummingbird. The male only has the throat of ruby color. It is about four inches long from tip of beak to

tip of tail. This is the only Hummingbird found in the Northern States or Canada east of the Prairies.

Kingbird (*Tyrannus tyrannus*). This bird is nearly black in its upper parts, white underneath, and has a black tail with white tip. Its concealed crest is orange and red. It is eight and a half inches long. Famous for its intrepid attacks on all birds, large and small, that approach its nest, it is found in North America east of the Rockies, into southern Canada.

Bluejay (*Cyanocitta cristata*). This bird is soft purplish blue above, and white underneath. The wings and tail are bright



Dove

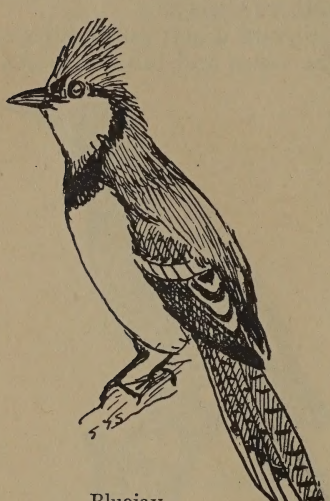
Flicker

Downy Woodpecker

Kingbird

blue with black marks. It is found in the woods of America east of the Plains to about latitude 55 degrees. The Bluejay is a wonderful songster and mimic, but it is mischievous—nearly as bad as the crow indeed.

Common Crow (*Corvus brachyrhynchos*). The Crow is black from head to foot, body and soul. It is about eighteen inches



Bluejay

Bobolink, or Reedbird

long and thirty wide. It makes itself a nuisance in all the heavily wooded parts of eastern North America.

Bobolink, or Reedbird (*Dolichonyx oryzivorus*). This bird is about seven and a half inches long. The plumage is black and white, with brown or creamy patch on nape; and the tail feathers all sharply pointed. The female, and the male in autumn, are all yellow buff with dark streaks. Though famous for its wonderful song as it flies over the meadows in June, it is killed by the thousands to supply the restaurants in autumn and served up under the name Reedbird. It is found in North America, chiefly between north latitude 40 and 52 degrees.

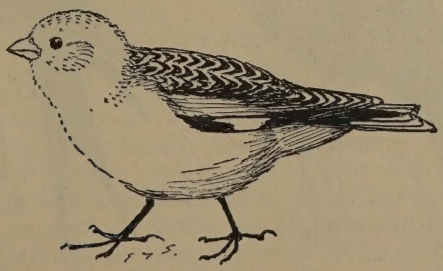
Baltimore Oriole (*Icterus galbula*). The Oriole is about eight inches long, flaming orange in color, with black head and back and partly black tail and wings. The female is duller in plumage. Famous for its beautiful nest, as well as its gorgeous plumage and ringing song, it is abundant in eastern North America in open woods up to northern Ontario and Lake Winnipeg.

Purple Grackle, or Crow Blackbird (*Quiscalus quiscala*). This northern bird of paradise looks black at a distance but its head is shiny blue and its body iridescent. It is twelve inches long. When flying it holds its long tail with the edge raised like a boat, hence "boat tail." In various forms it is found throughout the Eastern States, and in Canada up to Hudson Bay.

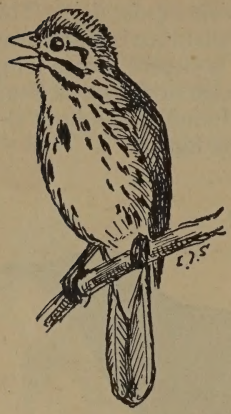
Baltimore Oriole

Purple Grackle, or Crow Blackbird

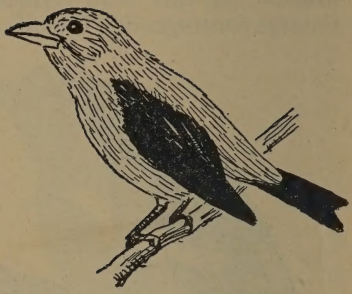
Snowbird (*Plectrophenax nivalis*). About six and a half inches long, this bird is pure white, overlaid with brown on the crown, back, and sides. The wings, back, and tail are partly black. The Snowbird nests in the Arctic regions and is common in most of temperate agricultural America, during winter, wherever there is snow.



Snowbird



Song-Sparrow



Scarlet Tanager

Song-Sparrow (*Melospiza melodia*). The Song-Sparrow is about six and a half inches long—brown above—white underneath. It is thickly streaked with blackish marks on flanks, breast, and all upper parts. All the tail feathers are plain brown. There is a black blotch on the jaw and another on the middle of the breast. Always near a brook. It is noted for its sweet

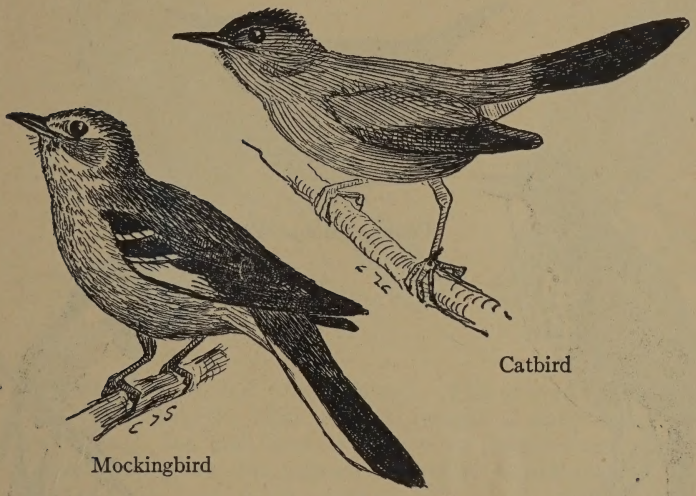
Purple Martin

Barn Swallow

and constant song, and is found in all well wooded and watered parts of North America.

Scarlet Tanager (*Piranga erythromelas*). This gorgeous bird is about seven inches long. The plumage of the male is of a flaming scarlet, with black wings and tail; but the female is dull green in color. The Scarlet Tanager is found in the woods of eastern America, up to Ottawa and Lake Winnipeg.

Purple Martin (*Progne subis*). About eight inches in length, with long wings and forked tail, the Purple Martin is everywhere of a shiny bluish or purplish black. Like the Kingbird it attacks any intruder on its lower range. This swallow is found in the



Catbird

Mockingbird

wooded regions of east temperate America, north to Newfoundland and the Saskatchewan.

Barn Swallow (*Hirundro erythrogaster*). About seven inches long, this bird is steel-blue above, chestnut on throat and breast, buffy white on belly. It is known by the long forked tail which is dark with white spots. Famous for its mud nest, it is found in open country about barns in America generally.

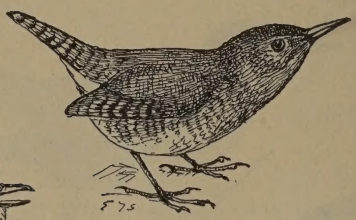
Mockingbird (*Mimus polyglottos*). About ten inches long, soft gray above, dull white beneath, wings and tail black and white, with *no* black on head—the Mockingbird is famous for its song, and is found in United States north to New Jersey.

Catbird (*Dumetella Carolinensis*). This northern Mocking-

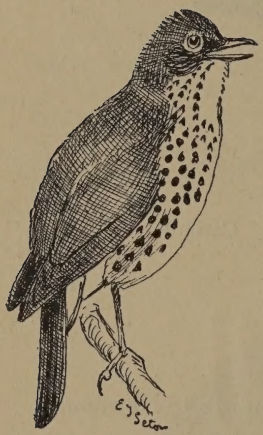
bird is about nine inches long, dark slate in color, with a black-brown cap, black tail, and a red patch "on the seat of its pants." It abounds in the Eastern States and Canada, north to Ottawa, Saskatchewan, and British Columbia.

Common House Wren (*Troglodytes aëdon*). This little fairy is about five inches long; soft brown above and brownish gray below, it is barred with dusky brown on wings and tail. It nests in a hole, and is found in wooded America east of the Plains, north to Saskatchewan, Ottawa, and Maine.

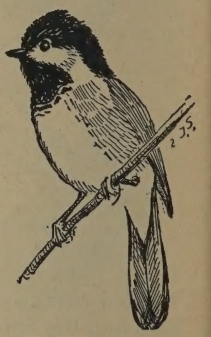
Chickadee (*Penthestes atricapillus*). This cheerful little bird is five and a half inches long. Its cap and throat are black.



Common House Wren



Wood Thrush



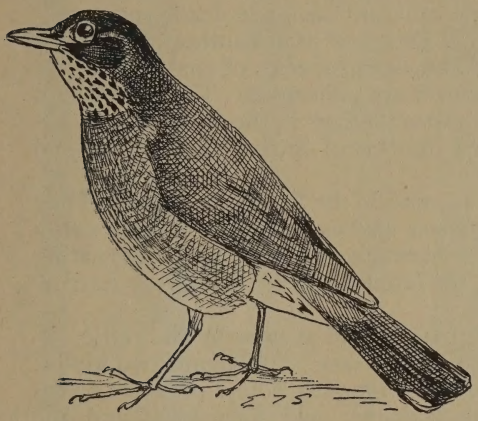
Chickadee

Its upper parts are gray, its under parts brownish, its cheeks white, no streaks anywhere. It does not migrate, so it is well known in the winter woods of eastern America up to the Canadian region where the Brown-capped or Hudson Chickadee takes its place. Its familiar song *chickadee dee dee* has given it its name.

Wood Thrush (*Hylocichla mustelinus*). About eight inches long, cinnamon-brown above, brightest on head, white below,

with black spots on breast and sides, this Thrush is distinguished from the many thrushes in America, much like it, by the reddish head and round black spots on its under sides. It is found in the woods of eastern North America up to Vermont and Minnesota.

Robin (*Planesticus migratorius*). The Robin is about ten inches long, mostly dark gray in color, but with black on head



Robin

Bluebird

and tail; its breast is brownish red. The spots about the eye, also the throat, the belly, and the marks in outer tail feathers are white. Its mud nest is known in nearly every orchard. Found throughout the timbered parts of America north to the limit of trees.

Bluebird (*Sialia sialis*). About seven inches long, brilliant blue above, dull red-brown on breast, white below. Found in eastern North America, north to about latitude 50 degrees in the interior, not so far on the coast.

Books Recommended

WATER BIRDS, LAND BIRDS EAST OF ROCKIES, AND LAND BIRDS WEST OF ROCKIES, Chester A. Reed. Doubleday, Page & Co. Price, $1.00 each volume. (Popular.)

HANDBOOK OF THE BIRDS OF EASTERN NORTH AMERICA, by F. M. Chapman. Appleton, N. Y. Price, $3.00. (Technical.)

HANDBOOK OF BIRDS OF THE WESTERN UNITED STATES, by Florence Merriam Bailey. Houghton, Mifflin & Co. Price, $3.50. (Technical.)

Bird Homes, by A. R. Dugmore. Doubleday, Page & Co. Price, $3.50. (Popular.)

Birds That Hunt and Are Hunted, by Neltje Blanchan. Doubleday, Page & Co. Price, $3.50. (Popular.)

Bird Book for Children. Thornton Burgess.

SNAKES, GOOD AND BAD

Snakes are to the animal world what toadstools are to the vegetable world—wonderful things, beautiful things, but fearsome things, because some of them are deadly poison.

Taking Mr. Raymond L. Ditmars* as our authority, we learn that out of one hundred and eleven species of snakes found in the United States, seventeen are poisonous. They are found in every state, but are most abundant in the Southwest.

These may be divided into Coral Snakes, Moccasins, and Rattlers.

The Coral Snakes are found in the Southern States. They are very much like harmless snakes in shape, but are easily distinguished by their remarkable colors, "broad alternating rings of red and black, the latter bordered with very narrow rings of yellow."

The Rattlesnakes are readily told at once by the rattle.

But the Moccasins are not so easy. There are two kinds: the Water Moccasin, or Cotton-mouth, found in South Carolina, Georgia, Florida, Alabama, and Louisiana, and the Copperhead, which is the Highland, or Northern Moccasin or Pilot Snake, found from Massachusetts to Florida and west to Illinois and Texas.

Here are distinguishing marks: The Moccasins, as well as the Rattlers, have on each side of the head, between the eye and nostril, a deep pit.

The pupil of the eye is an upright line, as in a cat; the harmless snakes have a round pupil.

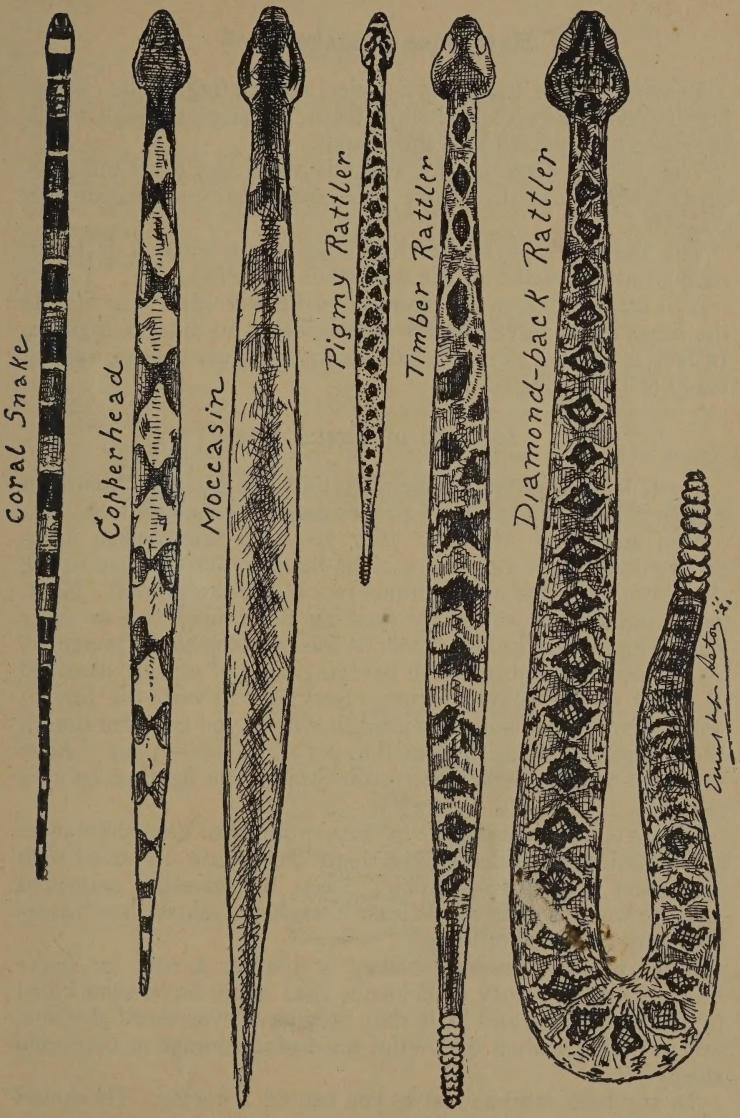
The Moccasins have a single row of plates under the tail, while the harmless snakes have a double row.

The Water Moccasin is dull olive with wide black transverse bands.

The Copperhead is dull hazel brown, marked across the back with dumb-bells of reddish brown; the top of the head more or less coppery.

Both Moccasins and Rattlers have a flat triangular head, which is much wider than the thin neck; while most harmless snakes have a narrow head that shades off into the neck.

*This article is chiefly a condensation of his pamphlet on "Poisonous Snakes of the United States," and is made with his permission and approval.


Types of Poisonous Snakes
Coral Snake
Copperhead
Moccasin
Pigmy Rattler
Timber Rattler
Diamond-back Rattler

Rattlesnakes are found generally distributed over the United States, southern Ontario, southern Alberta, and Saskatchewan.

How Does a Snake Bite?

Remember, the tongue is a feeler, not a sting. The "stinging" is done by two long hollow teeth, or fangs, through which the poison is squirted into the wound.

The striking distance of a snake is about one third the creature's length, and the stroke is so swift that no creature can dodge it.

The snake can strike farthest and surest when it is ready coiled, but can strike a little way when travelling.

You cannot disarm a poisonous snake without killing it. If the fangs are removed others come quickly to take their place. In fact, a number of small, half-grown fangs are always waiting ready to be developed.

In Case of Snake Bite

First, keep cool, and remember that the bite of American snakes is seldom fatal if the proper measures are followed.

You must act at once. Try to keep the poison from getting into the system by a tight bandage on the arm or leg (it is sure to be one or the other) just above the wound. Next, get it out of the wound by slashing the wound two or more ways with a sharp knife or razor at least as deep as the puncture. Squeeze it—wash it out with permanganate of potash dissolved in water to the color of wine. Suck it out with the lips (if you have no wounds in the mouth it will do you no harm there). Work, massage, suck, and wash to get all the poison out. After thorough treatment to remove the venom the ligature may be removed.

"Pack small bits of gauze into the wounds to keep them open and draining, then dress over them with gauze saturated with any good antiseptic solution. Keep the dressing saturated and the wounds open for at least a week, no matter how favorable may be the symptoms."

Some people consider whiskey or brandy a cure for snake bite. There is plenty of evidence that many have been killed by such remedies, and little that they have ever saved any one, except perhaps when the victim was losing courage or becoming sleepy.

In any case, send as fast as you can for a doctor. He should

come equipped with hypodermic syringe, tubes of anti-venomous serum, and strychnine tablets.

Harmless Snakes

Far the greatest number of our snakes are harmless, beautiful, and beneficent. They are friendly to the farmer, because, although some destroy a few birds, chickens, ducklings, and game, the largest part of their food is mice and insects. The Blacksnake, the Milk Snake, and one or two others, will bite in self-defence, but they have no poison fangs, and the bite is much like the prick of a bramble.

Books Recommended

THE REPTILE BOOK, Raymond L. Ditmars. Doubleday, Page & Co., 1907; 465 pages, many ills. Price, $3.50.

POISONOUS SNAKES OF NORTH AMERICA, Leonhard Stejneger. Government Printing Office.

THE CROCODILIANS, LIZARDS, AND SNAKES OF NORTH AMERICA, Edward Drinker Cope. U. S. National Museum, June, 1898.

REPTILES OF THE WORLD (with readable histories of their habits) about 300 illustrations, Raymond L. Ditmars. The Sturgis & Walton Co. Price, $5.00.

COUPS AND DEGREES

Climbing the Mountain

Afar in our dry Southwestern country is an Indian village, and in the offing is a high mountain towering up out of the desert. It was considered a great feat to climb this mountain, so that all the boys of the village were eager to attempt it. One day the Chief said, "Now, boys, you may all go to-day and try to climb the mountain. Start right after breakfast and go each of you as far as you can. Then when you are tired, come back, but let each one bring me a twig from the place where he turned."

Away they went, full of hope, each feeling that he surely could reach the top.

But soon a fat, pudgy boy came slowly back and in his hand he held out to the Chief a leaf of cactus.

The Chief smiled and said, "My boy, you did not reach the foot of the mountain; you did not even get across the desert."

Later a second boy returned. He carried a twig of sage-brush.

"Well," said the Chief, "you reached the mountain's foot, but you did not climb upwards."

The next had a cottonwood spray.

"Good," said the Chief, "you got up as far as the springs."

Another came later with some buckthorn. The Chief smiled when he saw it, and spoke: "You were climbing; you were up to the first slide rock."

Later in the afternoon one arrived with a cedar spray, and the old man said, "Well done. You went half-way up."

An hour afterwards, one came with a sprig of pine. To him the Chief said, "Good; you went to the third belt, you made three-quarters of the climb."

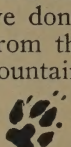
The sun was low when the last returned. He was a tall, splendid boy of noble character. His hand was empty as he approached the Chief, but his countenance was radiant, and he said, "My father, there were no trees where I got to—I saw no twigs, but I saw the Shining Sea."

Now the old man's face glowed, too, as he said aloud and almost sang. "I knew it! When I looked at your face, I

knew it. You have been to the top. You need no twigs for token. It is written in your eyes, and rings in your voice. My boy, you have felt the uplift, you have seen the glory of the mountain."

Oh, ye Woodcrafters, keep this in mind, then—the badges (the coups and degrees) we offer for attainment are not *"prizes"*—they are merely tokens of what you have done, of where you have been. They are mere twigs from the trail to show how far you got in climbing up the mountain.

BLACK WOLF.
Chief.



Conservation

In my young days some 50 odd years ago, trees were considered the greatest plague of the settler, and every means of destroying them was employed with vigor. The man who cut down a tree on his neighbor's land, was supposed to be doing him a benefit.

Now what a change we see! Forest destruction has gone so fast and so far that we have been suddenly confronted with the probability of a woodless waste where once were the American forests famous the world over; with a desolated, deliberately desolated, fatherland.

We know these things today, and wise leaders are everywhere at work inculcating the methods of true conservation.

With these leaders, the Woodcraft League co-operates, and to this end, we have in this issue of the Birch Bark Roll carefully avoided any line of activity that seems likely to lead to destruction of any of Mother Nature's blessings.

Collections of butterflies and birds we no longer encourage, baskets made of materials where their use would be a menace to our forest resources are not now listed for honors. On the other hand, the placing of bird boxes, the planting of trees, the dissemination of wild flowers and the destruction of tent caterpillars, etc., are cited as honorable Woodcraft activities.

COUPS AND DEGREES

The Woodcraft League is organized on the idea that boys and girls who are interested in outdoor life and in active living will continue along these lines as they grow older. Woodcraft *coups* and *degrees* are standard. They include work for both sexes, though each sex will find it desirable to select the ones most fitted to it. In many cases, however, both boys and girls may select the same *coup* or degree. In fact, we believe that a sharing of many experiences would greatly help in solving some of the problems which we are facing at the present time.

A *coup* or a *grand coup* is a single exploit for which the feather badge is given. It is meant to be a really meritorious exploit in a given department. A *grand coup* of the same department is similar, but of such excellence that a person achieving it, is considered in the highest class. Furthermore, the grouping has been attempted so that no one, through mere industry, can keep on adding honors in the field that they have in a sense conquered. The one exception to this is such as are specified as repeaters, viz., mountain-climbing. Any lowering of these standards would rob the *coups* of their value. The committee has steadfastly aimed to raise the standards, while adding to the number of departments of activity.

A *degree* is conferred as an evidence of all-round proficiency in a given department.

No badges are conferred unless the exploit has been properly witnessed or proven, and approved by a careful local committee. When it is a question of time under one minute, only stop watches are allowed. Badges, once fairly won, can never be lost for subsequent failure to reach the standard. Except when otherwise stated, the exploits are meant for all ages.

At least two witnesses are preferred as sponsors for the achievement, but obviously in some cases this is impossible. In such cases, it is sufficient if claimant convinces the committee in charge that the *coup* has been fairly won.

NOTE—No two *coups* may be claimed for one exploit. For example: *Coup* for swimming 200 yards, in time, and *coup* for swimming 220 yards, any time. You cannot swim the 200 yards in time, and then swim 20 yards more and claim two *coups*. Each *coup* must be a separate exploit.

THE WAY OF THE FIRST LAMP

No test requiring violent exercise should be taken unless the member has passed a general physical examination. The Guide of each group should see that this precaution is observed, and especially so in the case of the girl members. Failure to observe the condition of the body may result in life-long harm. Girls take the standards according to their ages up to eighteen, but for athletics never over that.

Do not try for any *coup* in athletics without getting your Guide's approval.

Athletics

Events	Not past 14th birthday 80 lbs. and under	Not past 16th birthday 95 lbs. and under	Not past 18th birthday 110 lbs. and under	Not past 18th birthday Over 110 lbs.	Not past 45th birthday Unlimited Weight	Past 45th birthday Unlimited Weight	My Record
	coup *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	
Walking							
100 yards	31 s; 29	27; 25	25; 23	23; 21	22; 20	23; 21	
1 mile	14 m; 13	13; 12	11; 10	10; 9½	9; 8	10; 9	
In 1 hour	Not open	Not open	3½mi; 4	4; 5	5; 6	5; 5½	
Running							
50 yards	8s; 7⅗	7⅗; 7⅕	7⅕; 6⅘	6⅘; 6⅕	Not open	Not open	
100 yards	Not open	14⅖s; 13⅘	13⅖; 12⅘	12⅗ 11⅘	11⅗; 10⅘	Not open	
220 yards	Not open	Not open	Not open	30s; 27	27; 24	Not open	
880 yards	Not open	Not open	Not open	2 m, 2 m 40 s; 25s	2 m, 2 m 25 s; 10s	Not open	
1 mile	Not open	Not open	Not open	Not open	5 m 4m 20 s; 50 s	6m; 5m 30s	
[1]*Jumping*							
Running high jump	3'; 3' 4"	3' 4"; 3' 8"	3' 8"; 4' 2"	4' 2"; 4' 8"	4' 8"; 5' 4"	Not open	
Standing broad jump	6'; 6' 6"	6' 6"; 7'	7'; 7' 6"	7' 6"; 8' 3"	8' 3"; 9'	8'; 8' 4"	
Running broad jump	8'; 9' 6"	9' 6"; 11'	11'; 13'	13'; 15'	15' 6"; 18'	Not open	
Hop, step and jump	14'; 16'	16'; 18'	18'; 21'	21'; 24'	24'; 27'	Not open	

[1] "In the standing jump, the feet of the competitor may be placed in any position, but shall leave the ground once only in making an attempt to jump. . . . A competitor may rock back and forward, lifting heels and toes alternately from the ground, but may not lift either foot clear of the ground, nor slide either foot along the ground in any direction."

"All measurements shall be made from the front of the 'take-off' to the nearest point at which any part of the body touches the ground.

"In the running broad jump, there is no limit to the distance that may be run before making the jump.

"For the running high jump, the bar shall be a thin stick and shall rest on pins which shall project not more than three inches from the uprights."

Events	Not past 14th birthday 80 lbs. and under	Not past 16th birthday 95 lbs. and under	Not past 18th birthday 110 lbs. and under	Not past 18th birthday Over 110 lbs.	Not past 45th birthday Unlimited Weight	Past 45th birthday Unlimited Weight	My Record
	coup g. c.	*coup g. c.*	*coup g. c.*	*coup g. c.*	*coup g. c.*	*coup g. c.*	
Throwing							
[2]Baseball for distance	120′; 150′	150′; 180′	180′; 210′	210′; 230′	230′; 250′	210′; 230′	
[3]Baseball for accuracy	3 str; 4 str in 6 throws at 40 ft.	3 str; 4 str in 5 throws at 45 ft.	3 str; 4 str in 6 throws at 50 ft.	3 str; 4 str in 5 throws at 50 ft.	3 str; 4 str in 5 throws at 60 ft.	3 str; 4 str in 5 throws at 60 ft.	
Lacrosse ball with stick	70 yds; 85	85; 100	100; 115	115; 130	130; 150	120; 140	
Basket from foul line	Not open	3 out of 4 6 tries	4 out of 3 6 tries 5	3 out of 4 5 tries 5	4 out of 5 5 tries 6	3 out of 4 5 tries 5	
Batting baseball	60 yds; 65	65; 70	70; 80	80; 90	90; 100	80; 90	
[4]*Shot put*	Not open	Not open	26 ft.; 30 (8 lbs.)	26; 30 (12 lbs.)	30; 34 (12 lbs.)	28; 32 (12 lbs.)	
Football							
Kick a drop goal	30 yds; 35	35; 40	40; 45	45; 50	50; 55	45; 50	
Place kick	35 yds; 40	40; 45	45; 50	50; 55	55; 60	50; 55	

[2] The primary consideration here is distance, although the balls should be kept within a fairly well defined area, say the width of a road or track. Any number of steps shall be allowed, but the thrower must not step over the line in making the throw. Measuring may be simplified by placing markers at the specified distance.

[3] Make a target 15 inches by 24 inches of wood or canvas, to represent the area within which a strike must be thrown. Suspend this target a foot or two in front of a backstop of wire, a fence, or a mat in the gymnasium. The lower edge of the target should be 24 inches from the floor. A strike is any throw that hits the target enough to move it at all. Care must be taken to see that the ball hits the target directly and not on the rebound. The thrower shall stand facing the target with both feet upon the line indicating the distance specified for his event. In delivering the ball, he may step forward with either foot, but his other foot must be upon the line when the ball is thrown.

[4] A lead or iron shot should be used, and care taken to get one of exact weight. The test calls for a put and not a throw—that is, the shot must be propelled from above and in front of the shoulder. The put is made from within a 7-foot circle. Touching the ground in front of the circle with the foot, hand or any part of the body is not allowed. The measurement is taken from the spot where the shot first touches the ground to the nearest point on the circumference of the circle.

Events	Not past 14th birthday 80 lbs. and under		Not past 16th birthday 95 lbs. and under		Not past 18th birthday 110 lbs. and under		Not past 18th birthday Over 110 lbs.		Not past 45th birthday Unlimited Weight		Past 45th birthday Unlimited Weight		My Record
	coup	*g. c.*	*coup*	*g. c.*	*coup*	*g. c.*	*coup*	*g. c.*	*coup*	*g. c.*	*coup*	*g. c.*	
[5]*Rope Climbing*	12 ft;	13	13;	14	14;	15	15;	16	16;	18	15;	16	
[6]*Chinning the bar*	4 times;	6	6;	8	8;	9	9;	10	12;	15	10;	12	
Hand walk, heels up	20 ft;	25	25;	30	30;	50	50;	75	75;	100	50;	75	
Parallel Bar													
3 successive arm jumps with swings	12 ft;	13	13;	14	14;	15	15;	16	16;	18	15;	16	
Push up without swing	16 times	18	18;	20	20;	25	25;	30	30;	40	25;	30	
Skating													
100 yards	15 s;	14	14;	13	13;	12	12;	11⅕	11⅕	10⅖	12;	11⅕	
440 yards	70 s;	68	68;	65	65;	60	60;	50	50;	45	60;	50	
880 yards	155s;	150	150;	145	145;	140	140;	135	135;	130	140;	135	
1 mile	3m.	3 m.	3 m	3 m	3 m	3 m	3 m;	3 m	3 m;	2 m	3 m	3 m	
	45 s;	30 s	30 s;	12 s	45s;	25s	12 s			50 s	12 s;		
5 miles	Not open		25 m;	23	23;	21	21;	19	19;	17	21;	19	
10 miles	Not open		55 m;	50	50;	48	48;	42	42;	36	48;	42	
15 miles	Not open		90 m;	85	85;	80	80;	70	70;	60	80;	70	
20 miles	Not open		2 hr. 15 m;	2 hr. 10 m	2 hr. 10 m.	2 hr.	2 hr.	1 hr. 40 m	1 hr. 40m;	1 hr. 20m	2 hr;	1 hr 40 m	

[5] The standard rope for this event is 1¼ inches in diameter, but any rope will be allowed provided it does not have any assisting devices of any sort, such as knots or balls. It must not be fastened at the bottom. Points should be marked by a white or colored string or cloth, and the climber must touch with his hand the mark indicating the height for his event. The start must be made from a standing position without a jump or spring.

[6] A portable chinning bar in a doorway, a horizontal bar in the gymnasium or the rungs of a ladder set at an angle against a building may serve the purpose.

The contestant begins with his hands on the bar. Then with his arms straightened at full length he pulls himself up without a kick, snap, jerk or swing, until his chin is above the bar. Lowering himself again until his arms are straight, he repeats the pull-up.

Events	Not past 14th birthday 80 lbs. and under	Not past 16th birthday 95 lbs. and under	Not past 18th birthday 110 lbs. and under	Not past 18th birthday Over 110 lbs.	Not past 45th birthday Unlimited Weight	Past 45th birthday Unlimited Weight	My Record
	coup *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	*coup* *g. c.*	
Skating—Cont.							
25 miles	Not open	4 hr. 2 hr. 45 m	2 hr. 2 hr. 45 m; 30 m	2 hr. 2 hr. 45 m; 30 m	2 hr. 2 hr. 30 m.	2 hr. 2 hr. 45 m; 30 m	
Swimming							
100 yards	any tm. 4m	any tm. 3½	any tm. 3m	any tm. 3m	any tm. 2½	any tm. 3	
200 yards	14 m; 13	13; 12	12; 11	11; 10	10; 9	11; 10	
Paddling							
1 mile	Not open	Not open	Not open	13 m; 12 m	11 m; 10 m	any tm. 3m	
Rowing (single sculls)							
1 mile	11 m; 10	10; 9	9; 8	8; 7	7 m. 6 m. 25 s; 50 s	8; 7	

The rulings given in the foregoing footnotes are extracts from the official "Handbook of the Public Schools Athletic League of New York City" and the "Athletic Badge Tests" of the Playground and Recreation Associations of America.

Walking

Walk one unbroken mile a day, outdoors (not track walking) for 60 successive days, for *coup*. 120 days for *grand coup*.

Take a hike of not less than 4 miles once a week for 20 consecutive weeks, for *coup*. Same for 40 weeks, for *grand coup*.

Walk 5 miles a day for 5 successive days and make a sketch or photograph of some interesting natural object or view each day, for *coup*. Walk 5 miles a day for 10 successive days, making sketch or photograph as above, for *grand coup*.

Take 12 hikes in 12 months (one in each month), covering in all not less than 60 miles, minimum of 2 miles on one hike, and learning to know and identify unquestionably a total of 25 specimens from the following groups, for *coup*. For *grand coup*, learn to know 50 specimens.

Trees
Shrubs
Flowers
Non-flowering plants
Birds
Mammals
Reptiles
Insects
Spiders
Amphibians
Crustacea
Fishes
Other sea animals
Tracks of animals
Minerals
Rocks

Bicycling

Ride 40 miles on bicycle every week for 4 weeks, riding at least 3 days each week, for *coup*. Ride 70 miles every week riding at least 5 days each week, for *grand coup*.

Ride bicycle on a 15-mile trip once a week for 20 successive weeks, for *coup*. For 40 successive weeks, for *grand coup*.

Ride bicycle on a 5-day trip, covering at least 15 miles a day, camping out and cooking at least one meal each day over a camp fire, for *coup*. Same for 10 days and in addition, make a sketch or photograph of some interesting natural object or view on each day, for *grand coup*.

Motoring

Motor, doing all the driving, at least 50 miles per day for 5 successive days and make each day 2 sketches or photos, of some interesting natural history object or view, for *coup.* For *grand coup,* camp out at least 4 of the 5 nights and cook at least one meal a day over campfire.

Motor, doing all the driving, 200 miles in a week, in not less than 4 days, each day identifying, photoing or sketching 5 natural objects or views for *coup.* Do same for 2 weeks, in not less than 4 days each week, for *grand coup.*

Motor, doing all the driving, 1,000 miles within 30 days, for *coup.* Do same in 4 days, for *grand coup.* (Garage privileges allowed.)

Motor across the Continent, camping out at least half the nights, and making 20 photos or sketches of things of national fame, for *coup.* If all the driving is done by self, *grand coup.*

Travel

Enter the Arctic Circle by sea, for *coup.* By land, for *grand coup.*

Cross the Equator by sea or rail, as seaman or passenger, for *coup.* On foot, *grand coup.*

Travel on foot for 50 miles with not more than 2 companions, neither of whom is a professional guide, through strange territory, carrying outfit, and sleeping out every night, each person planning and cooking meals for at least 1 day, for *coup.* 100 miles for *grand coup.*

Travel 100 miles on foot with a party which may be guided, carrying own outfit, and sleeping out every night, for *coup.* 200 miles for *grand coup.*

Make a continuous canoe trip of 100 miles with not more than 2 companions, neither of whom is a guide, through strange waters, sleeping out every night, for *coup.* 200 miles for *grand coup.*

Make a continuous canoe trip of 150 miles with a party which may be guided, sleeping out every night, for *coup.* 300 miles for *grand coup.*

Make a continuous saddle trip of 100 miles with not more than 2 companions, neither of whom is a guide, through

strange territory, sleeping out every night, for *coup*. 200 miles of same for *grand coup*.

Make a continuous saddle trip of 150 miles with a party which may be guided, sleeping out every night, for *coup*. 300 miles for *grand coup*.

Sail a boat without expert help for 50 miles in one season, for *coup*. 100 miles for *grand coup*.

Log-riding. Tread a saw-log 100 yards in any time, without going overboard, for *coup*. Do it 100 yards and back in 30 minutes, *grand coup*. This means standing. A pole may be used to balance, but not to be rested on shore or another log.

Follow a trail alone, or as leader of a party, through a wilderness for 2 days without losing the same, for *coup*. Do same for 7 days, part of which travel has been through woods and part through open territory, for *grand coup*.

Travel without a trail through a wilderness without getting lost for 8 hours of travel, for *coup*. For 20 hours of travel and through various kinds of country, for *grand coup*.

Ski-man. Travel 6 miles in an hour, 40 miles in one day, cover 40 feet in a jump, and travel 250 miles all told, for *coup*. 7 miles in an hour, 50 miles in one day, 50-foot jump, 500 miles all told, for *grand coup*.

Riding and Driving

Ride a horse one mile in three minutes, clearing a 4-foot hurdle and a 10-foot water jump, *coup*. Do it in two minutes, clearing a 5-foot hurdle and a 15-foot water jump, *grand coup*.

Rope your mount out of a bunch without swinging the rope and in not more than three throws, bridle him properly, the whole to be done in not over one minute, *coup*. Catch your horse as above but with only one throw, saddle and ride him 20 miles, the whole to be within 2½ hours and the horse brought back in good condition at the finish, for *grand coup*.

Pick up a hat from the ground while at full gallop on a horse of not less than 13 hands, *coup*. Do it three times without failure, from each side, with horse of at least 15 hands, *grand coup*.

Groom, hitch and drive a trotter a mile in 2.40, *coup*. Do this with three different trotters, *grand coup*.

Act as teamster, unaided during 30 successive days of travel on Western trails with a team and wagon, loaded at least half the time, *coup*. With a 4-animal team for 60 successive days, *grand coup*.

Mountain Climbing

This is a repeater; that is, climbing two different mountains counts two *coups,* but climbing the same mountain twice is only one *coup*.

For *Coup* under 18

Great Britain

Ben Nevis, 4406 feet, highest land in Scotland.
Ben Macdhuie, 4296 ft., 2nd highest land in Great Britain.
Ben Lawers, 4004 feet.
Ben Cruachan, 3689 feet.
Snowdon, 3560 feet, highest land in Wales.
Ben Wyvis, 3429 feet.
Scarfell, 3210 feet, highest land in England.
Ben Lomond, 3192 feet, in Scotland.

In Europe

Vesuvius, Italy, averages 4,000 feet.
Breithorn, Swiss Alps, 12,399 feet.

In North America

Washington, N. H., 6293 ft. Electric Peak, Wyo., 11,000 ft.
Mt. Wilson, Cal., 6723 ft. Old Baldy, Cal., 10,142 ft.
San Bernardino, Cal., 10,106 ft.

Grand Coup under 18

In Europe		*In North America*	
Mt. Blanc, Swiss Alps	15,782 ft.	Pikes Peak, Col.	14,108 ft.
Monte Rosa, Swiss "	15,214 ft.	Shasta, Cal.	14,308 ft.
Monte Viso, Ital. "	12,609 ft.	Adams, Wash.	12,470 ft.
Mt. Etna, Sicily	12,708 ft.	Or any other mountain over 14,000 ft.	

In Asia

Fujiyama, Japan, 12,395 ft. Tabor (Olives) 1,690 ft.

Coup for those over 18

In Europe

Mt. Blanc, Swiss Alps	15,782 ft.
Monte Rosa, Swiss Alps	15,214 ft.
Monte Viso, Italian Alps	12,609 ft.
Ecrins, French Alps	13,482 ft.
Grand Paradis, Italian Alps	13,324 ft.
Jungfrau, Swiss Alps	13,699 ft.
Finsteraarhorn, Swiss Alps	14,026 ft.
Westerhorn, Swiss Alps	14,782 ft.
Bernina, Swiss Alps	13,304 ft.
Ortler, Austrian Alps	12,802 ft.
Gross Glockner, Austrian Alps	12,461 ft.
Matterhorn, from Zermatt	14,782 ft.

In North America

St. Helena, Wash. 10,000 ft.	Stephen, Can.
Adams, Wash. 12,460 ft.	Or any other mountain over 13,000 ft.
Hood, Oregon 11,225 ft.	Orizaba, Mex. 18,209 ft.
Shaughnessy, Can.	Popocatapetl, " 17,876 ft.

Grand coup for those over 18

In Europe

Aig. du Géant, Swiss Alps	13,170 ft.
Meige, French Alps	13,081 ft.
Aig. du Grépon	11,489 ft.
Matterhorn (by Italian or Stockje Ridges)	14,782 ft.
Aig. du Dru, Swiss Alps	12,320 ft.
Dent Blanche, Swiss Alps	14,318 ft.

Mischabelhorner, Swiss Alps	14,942 ft.
Schreckhorn, Swiss Alps	13,386 ft.
Monte di Scerscen, Swiss Alps	13,386 ft.
Funffingerspitze, Austrian Alps	9,833 ft.
Kleine Zinne, Hungary	3,153 ft.

In North America

Sir Donald, Can.	10,645 ft.	McKinley, Alaska	20,300 ft.
Logan, Can.	19,539 ft.	Grand Teton, Wyo.	13,747 ft.
Assiniboine, Can.	11,800 ft.	Tacoma, Wash.	14,363 ft.
St. Elias, Alaska	18,023 ft.	Shasta, Cal.	14,308 ft.
Fairweather, Alaska	15,290 ft.	Or any other mountain over 14,000 ft.	

In South America

Chimborazo
Cotopaxi
Illimani
Aconcagua

In Asia

Any peak 19,000 ft. high or over.

In Africa

Any peak 15,000 ft. high or over.

Pack Animal Care and Equipment

Pack a horse or mule with not less than 100 pounds, with the single or double diamond, miner's, squaw, square or any other standard hitch, to hold during 6 hours of travel, for 3 consecutive days, for *coup*. Do the same for 30 days' journey, not necessarily consecutive, and using 3 different hitches, for *grand coup*.

Pack a burro with not less than 50 pounds, with the single or double diamond, miner's, squaw, square, or any other standard hitch, to hold during 6 hours of travel, for 3 consecutive days, for *coup*. Do the same for 30 days' journey, not necessarily consecutive, and using 3 different hitches, for *grand coup*.

Take entire charge of a horse or mule, including catching, during 10 days of wilderness travel. Hobbles and bell allowed, but no picketing, for *coup*. Take such care of 1 horse for 30 days or 5 horses for 15 days, and put a shoe on a horse, mule, or burro 5 times for *grand coup*.

Catch 10 different horses in a corral with 10 throws of the lasso, for *coup*. Catch 5 horses on the range with 10 throws of the lasso, for *grand coup*.

Catch a horse or beef by each of his forefeet in turn, for *coup*. Catch him by each of his forefeet with 4 successive throws of the lasso, for *grand coup*.

Make a serviceable pair of kyacks, or side-panniers, of rawhide or canvas reinforced with leather, and make a pack saddle which will fit some particular animal, for *coup*. Add to this, the breechings and breastings needed to hold it in place, all properly fitted, and make a pair of serviceable, strong-lined hobbles, for *grand coup*.

Make a comfortable pack harness which will carry 50 pounds for *coup*. If, in addition, this be properly fitted with breast straps and tump line, and used by self daily for 2 weeks (not necessarily successive), carrying not less than 30 pounds, *grand coup*. Not open to those under 18.

Water Skill

Build single-handed, without help, a canoe or boat which will carry one man safely, for *coup*. If the same can be paddled, rowed or sailed by one person 2 miles an hour on dead water, *grand coup*.

Build single-handed, without help, a birch bark canoe which will carry one man in safety, for *coup*. If same has traveled 10 miles without a leak, a *grand coup*.

Build single-handed, without help, a raft which will carry safely 300 pounds, for *coup*. Add support for keeping baggage dry, and paddle or pole the raft for 5 miles continuously, for *grand coup*.

Build single-handed, without help, across a stream or gully a safe foot bridge with piers, or a safe suspension bridge, or a safe pontoon bridge, 15 feet or more long, for *coup.* Build any two of these for *grand coup.*

Build single-handed, without help, a good dam at least 3 feet high in center, across a stream at least 6 feet wide, of wildwood material, for *coup.* If it be thoroughly water-tight, *grand coup.*

Bathe out of doors in water of natural temperature anywhere north of N. latitude 30° or S. latitude 30° for 300 days in the year, for *coup.* 365 days for *grand coup.*

Fire Making

Make a set of fire sticks from material of one's own gathering (except that the thong may be bought), and get with it a fire, for *coup.* Get a fire in one minute from such a set, and tell the story of the first fire, for *grand coup.*

Make a fire set for lighting a fire without the use of a bow, and get a fire with it, for *coup.* Get a fire in 2 minutes with such a set, for *grand coup.*

Match fire. Light 15 camp fires in succession with 15 matches, all in different spots, and all made with stuff of one's own gathering and found in the woods, one at least to be on a wet day, for *coup.* If 15 on wet days, or 30 lighted in succession, 2 at least on wet days, a *grand coup.*

Flint and steel. Light 10 camp fires in succession with flint and steel all in different spots, and all made with stuff gathered by self in woods, one at least to be on a wet day, and none to take more than 2 minutes from striking the flint to having the blaze, for *coup.* If 10 are lighted on wet days, or 20 lighted in succession, 2 at least on wet days, *grand coup.*

Fire drill or rubbing sticks. Same as flint and steel.

Make a torch of wildwood material which will burn for half an hour, for *coup.* Make two such, each of different material to burn for an hour, *grand coup.*

Camp Tools and Furniture

Make from a cow's horn, by one's-self, a huntsman's horn that will sound, for *coup.* If engraved with personal record, *grand coup.*

Make a horn cup with a handle and decorated, or with feet and decorated, for *coup.* In addition, make a hunter's

lamp, entirely of wildwood material, that will burn steadily for hour, *grand coup.*

Make a bow and 6 arrows that will carry 100 yards, for *coup.* To carry 150 yards, for *grand coup.*

Make six properly feathered, flint-headed arrows, shaping the flint one's self, for *coup.* Glass or quartz may be used. In addition, make a rain-proof, decorated quiver for same, *grand coup.*

Build a strong, serviceable table at least 4 x 8 feet and a solid bench to use with it, both of wildwood material, for *coup.* If no nails are used, *grand coup.*

Make a good, serviceable camp chair, picturesque and decorated, entirely from wildwood material. Make a serviceable hammock of wildwood material. Either for *coup;* both for *grand coup.*

Shelter

Without breaking forestry laws build a usable log cabin, plumb and true and rainproof, at least 6 x 8 feet in size, for *coup.* In addition, build a fireplace that will draw, opening to be not less than 24 x 24 inches and 16 inches deep, for *grand coup.*

Make a rainproof shelter other than the above, of wildwood material, at least 6 x 8 feet in size, 3 times for actual service, for *coup.* If equipped with windproof walls and wildwood bed suitable for 2 or more campers, *grand coup.*

Axemanship

Cut (and split if need be) sufficient rails to enclose an adequate horse corral 60 feet across. Build the same. Either for *coup;* both for *grand coup.*

Clothing

Tan a skin of some wild animal, smaller than a fox, so that the leather is soft and the fur will not slip, for *coup.* Of 4 animals, as large or larger than a fox, also sewing them together for a robe, for *grand coup.*

Half-sole and heel one pair of shoes, using ordinary camp equipment, for *coup.* Same for three pairs of shoes, for *grand coup.*

Do one of the following for *coup;* two for *grand coup.*

(a) Make solid "four-posters" for a willow bed(p. 227), and make a stout bench from split logs, with driven legs (no nails).

(b) Build a useful foot bridge by felling a tree whose logs shall span a stream or chasm at least 25 feet between the two natural abutments on which the log rests. (Note: The stump may form one abutment, provided the foot bridge may be made readily accessible by means of a dirt fill, stone approach or gangplank of natural material.)

(c) From a log hew a plank (not a slab) not more than 3 inches thick in any part, and not less than 10 feet long.

(d) Split from a log, ready for use, 200 shingles. The use of a saw and plane not permitted for either this or the preceding. An auger may be used.

Canoeing

Paddle one mile, alone, using single blade, in canoe not less than 15 feet long, on water without favoring wind or current:

Under 14		Under 16		Over 18	
Coup	*Grand coup*	*Coup*	*Grand coup*	*Coup*	*Grand coup*
14 min.	13 min.	13 min.	12 min.	11 min.	10 min.

Alone, or as active member of a crew, paddle, row or pole 5 miles a day for 5 successive days, each day making a note and sketch or photo of some interesting scene, for *coup.* Paddle, row or pole 10 miles a day for 10 days within 21 day limit, making each day note and sketch or photo of some interesting scene, for *grand coup.*

Canoeman. Alone in canoe, single paddle, in deep water with fair breeze. Fall overboard with paddle, replace paddle properly in canoe, climb in without shipping water and paddle to shore, for *coup.* In addition to this, turn over canoe, right it and empty it while still in deep water. Canoe at least 16 feet long, for *grand coup.* (This should not be attempted by any but adults because of physical strain of emptying canoe.)

Canoe Voyager. Do equal share of paddling on trip that includes paddling 80 miles within 5 days, making own camp every night, and carry all necessary duffle, for *coup.* 150 miles within 10 days, for *grand coup.*

Tandem Paddling. Paddle stern over a triangular course, keeping boat under control and giving all commands to bow,

shifting sides not more than twice, for one-half hour, in rough weather, and make a safe landing, for *coup*. Do same alone in canoe, for *grand coup*. (Stern paddling is not done by using paddle as a rudder, but by scientific "tripping". Rough weather means wind blowing hard enough to raise whitecaps.)

Be able to paddle bow, steering well without waiting for orders from stern, 2 miles upstream (with decided current), at least some twisting portion of which is too narrow to turn canoe around in, returning immediately 2 miles down, without touching the bank with paddle or canoe at all during the trip, for *coup*. Do same alone in canoe, for *grand coup*.

Same, paddling stern, for *coup*. Do it alone in canoe, for *grand coup*.

Paddle stern in rough weather and, without shifting paddle, describe a figure 8 within the space of 100 yards square, ending at point of beginning. Repeat with paddle on other side, for *coup*. Alone in canoe, *grand coup*.

Paddle bow under same conditions, except that "cross-bow" stroke is permitted, for *coup*. Alone in canoe, for *grand coup*.

Carrying. (Not permitted for girls under 18.) Overhead carry: Canoe must be handled from ground without assistance. ¼ mile over trail or ½ mile over road. For girls, a minimum of 15 foot canoe. For boys, 17 foot. Two persons, *coup*. One person, *grand coup*.

Poling. Pole in quick water (running at least 4 miles an hour) 5 miles down stream and 5 miles return, without rest in 3 hours, with assistance of bow paddler, without bumping or grounding canoe, for *coup*. Without bow paddler, *grand coup*.

Gunwales. Alone in 18-foot canoe, get up on gunwales, within 2 feet of center of canoe, one foot on each gunwale, without aid of paddle, and down, 5 times in succession, without upsetting canoe, for *coup*. (A smaller canoe may be used, but requires more skill.)

Swimming, Diving, Etc.

Only two of these may be counted towards Sagamore.

Coup for those 14 to 16 years old

Perform standing front dive and swim in good form 75 yards using

a. Breast stroke 25 yards.

b. Back stroke with inverted back kick, spiral or combination frog scissors, 25 yards.
c. Side stroke for last 25 yards.

Swim 25 yards on back, using legs only, 25 yards on back, using arms only, float motionless for three minutes, and tread water with hands out for three minutes.

Be dumped unexpectedly from canoe, clothed in camp costume, undress in deep water without touching boat and swim 25 yards. Also, break wrist hold and front neck hold of subject same weight and strength in deep water.

Perform surface dive in 6 feet of water and bring up definite object. Also, demonstrate side stroke carry, 30 feet and tired swimmer carry, 30 feet.

Swim 220 yards, no time limit.

Coup for those over 16; *grand coup* for those 14 to 16

Perform running plain front dive from springboard, or racing dive in at least fair form, and swim in good form 150 yards, using:

a. Breast stroke for first 50 yards.
b. Back stroke with inverted frog kick, spiral kick or combination frog-scissors kick for next 50 yards.
c. Side stroke for last 50 yards.

Swim 50 yards using legs only, crawl kick debarred; swim 50 yards, using arms only, and tread water for 3 minutes with both hands above water.

Swim 50 yards in camp costume, undress without support in at least 7 feet of water, then swim 50 yards more. Also, break following holds of swimming instructor, or other well-qualified assistant:

a. Wrist hold, single and double, each against one or both hands of opponent, by means of legs.
b. Front neck hold.
c. Back strangle hold.

(Each hold must be broken at least 5 times in correct form, and against real opposition.)

Perform surface dive in at least 7 feet of water and bring up human subject from bottom in side stroke carry. Demonstrate unconscious or slightly resisting subject carry, also tired swimmer or cramp carry, swimming 25 yards, subject lying on back with arms straight and hands on carrier's shoulders and legs spread around carrier's hips, carrier using breast stroke.

Demonstrate struggling subject carry, swimming 10 yards on back, towing subject with double arm lock, using frog kick or combination frog-scissors kick or spiral kick, resorting to full arm lock each time until subject ceases struggle, subject struggling violently at least 3 times. Also demonstrate warding off with arms and legs when attacked

a. From front.

b. From rear, each 2 minutes.

Swim without time limit at least 440 yards, using at least one speed swimming stroke in good form for a quarter of the distance.

Athletic Specialties

Turn a cartwheel, for *coup*. Do it both right and left, for *grand coup*.

Throw a tumbler or 4-legged handspring, for *coup*. Backward for *grand coup*.

Turn a somersault, forward or backward, *grand coup*.

Target Shooting

Revolver shot. Target 4 x 4 feet. Bull's-eye 8 inches (counts 4 points). Inner ring 2 feet (3 points). Outer, the rest of the target (2 points). Distance 30 yards.

96 shots divided in any number up to 6 days, one hand, standing, 250 points, for *coup*. 300 points for *grand coup*.

Half with left hand only, half with right only, 230 points for *coup*. 260 points for *grand coup*.

Rifleman. To be a marksman of the highest rank but one, according to National Rifle Association standards, a *coup*. To be an expert rifleman of the highest rank, *grand coup*.

Small bore marksman. Total score of 468 to 509, for *coup*, on following.

Small bore sharpshooter. Total score of 510 to 554, *grand coup*, on following.

Expert small bore rifleman. Total score of 555 or better, *grand coup* on following.

10 shots, slow fire, prone at 50 yards.

10 shots, slow fire, standing at 50 yards.

10 shots rapid fire kneeling from standing at 50 yards.

20 shots slow fire prone at 100 yards.

10 shots rapid fire, sitting from standing at 100 yards.

Rapid fire targets to be fired in 2 strings of 5 shots each. Second string to be fired immediately after the first with no shots at practice targets intervening.

Slow fire stages to be fired in strings of 10 shots.

Archery

(Revised by Will H. Thompson, of Seattle, Wash.)

Make a total score of 300 with sixty shots (in one or two meets) four-foot target at forty yards (or three-foot target at thirty yards), for *coup;* make 400 for *grand coup.*

Shoot so fast and far as to have six arrows in the air at once, for *coup;* seven for *grand coup.* (According to Catlin, the record is eight.)

For children (under ten), to send an arrow ninety yards, *coup;* 115 yards, *grand coup.* For those ten to fourteen, to send an arrow 125 yards, *coup;* 150, *grand coup.* For those fourteen to eighteen, to send an arrow 175 yards, *coup;* 200, *grand coup.* For those over eighteen, to send an arrow 250 yards, *coup;* 275, *grand coup.*

To hit the Burlap Deer in the heart, first shot:

10-14 at 45 yards, *coup;* 55 yards, *grand coup*
14-18 " 60 " " 70 " " "
Over 18 " 75 " " 85 " " "

(The heart is nine inches across.)

To cover a mile:

Children in 19 shots for *coup;* 15 shots for *grand coup*
10-14 " 14 " " " 11 " " " "
14-18 " 10 " " " 9 " " " "
Over 18 " 8 " " " 7 " " " "

Long Range, Clout, or Flight Shooting

14-18. Three-foot target at 130 yards, if possible on a steep hillside.

In the target is a bull's eye, and counts . . . 9
Within 3 feet of outside of target " . . . 7
" 6 " " " " " " . . . 5
" 9 " " " " " " . . . 3
" 12 " " " " " " . . . 1

Coup is for 300 at sixty consecutive shots. *Grand coup* is for 400 at sixty consecutive shots.

(In one or two meets.)

Over 18. Four-foot target at 180 yards, if possible on a steep hillside.

In the target is a bull's eye, and counts	9
Within 6 feet of outside of target "	7
" 12 " " " " " "	5
" 18 " " " " " "	3
" 24 " " " " " "	1

Coup for 300 at sixty consecutive shots. *Grand coup* for 400 at sixty consecutive shots.

(In one or two meets.)

Fishing

Boys are those under 14; lads 14 to 18; men 18 and over. Young girls are those under 14; girls, 14 to 18; women 18 and over.

Tackle-making. To make a six-foot leader of clean gut, with smooth knots to stand a strain of five pounds, *coup.* To tie six different flies, of regular patterns, on number eight to twelve hooks, and take trout with each of them, by daylight casting in clear water, *grand coup.*

Make a bait rod of three joints, straight and sound, sixteen ounces or less in weight, ten feet or less in length, to stand a strain of one and one-half pounds, at the tip, thirteen pounds at the grip, *coup.* Make a jointed fly-rod eight to ten feet long, four to eight ounces in weight, capable of casting a fly sixty feet, *grand coup.*

Fly-fishing. Take with the fly, unassisted, a three-pound trout or black bass, on a rod not more than five ounces in weight, *coup.* Take a five-pound trout or black bass or a four-pound landlocked salmon under the same conditions, *grand coup.*

Hook and land with the fly, unassisted, without net or gaff, a trout or landlocked salmon over four pounds, or a salmon over twelve pounds, *coup.* To take, under the same conditions, a salmon over twenty-five pounds, *grand coup.*

General Fishing. Boys, lads, men, young girls, girls, and women. Take on a rod, without assistance in hooking, playing, or landing, a trout, black bass, pike, muscallonge, grayling, salmon, bluefish, weakfish, striped bass, kingfish, sheepshead, or other game fish, whose weight in pounds equals or exceeds that of the rod in ounces, *coup.* Take under the same conditions a game fish that is double in pounds the ounces of the rod, *grand coup.*

Fly Casting. Cast a fly with a rod of 5 ounces or less, not over 10 feet long:

Boys and young girls	65 ft.,	*coup;*		85 ft.,	*grand coup.*		
Lads and girls	75 "	"		90 "	"	"	
Men and women	80 "	"		95 "	"	"	

"Every fish caught and kept, but not used, is a rotten spot in the angler's record." (H. v. D.)

Bait Casting

With one-half ounce dummy frog, five foot rod, overhead casting, tournament style:

Children	50 ft.,	*coup;*		100 ft.,	*grand coup.*		
Boys and young girls	75 "	"		125 "	"	"	
Lads and girls	100 "	"		150 "	"	"	
Men and women	125 "	"		175 "	"	"	

If a wooden plug is used instead of a dummy frog, add 20 per cent. to each distance.

Eyesight

Spot the Rabbit 3 times out of 5 at 30 yards, also distinguish and map out correctly 6 Pleiades and see clearly the "Papoose (Alcor) on the Squaw's (Mizar) back," for *coup.* Spot the Rabbit 3 times out of 5 at 40 yards, and as above for 7 Pleiades and Papoose, for *grand coup.* Those who habitually wear glasses, may use them in this test.

Make a 75 score in 10 tries in the game of Quick-sight, with 10 counters, for *coup.* A 95 score, for *grand coup.*

Farming

Do one of the following for *coup;* two for *grand coup.*

(a) Seed 5 acres of land or weed 5 acres with cultivator.

(b) Cut, rake and bunch 3 acres of hay, or haul and store hay from 3 acres, either in mow or in stack.

Stock Farming

Care for a team of horses or mules for 3 months, including bedding, currying, feeding, watering, etc., every day, for *coup.* Same for 6 months for both horses and mules, for *grand coup.*

Gardening

Do all the work of a successful flower garden, not less than 20 x 20 feet, and the same for a vegetable garden the same size, for *coup.* In addition, have a successful perren-

nial vegetable garden for 2 years, to contain at least 6 of the following: asparagus, swiss chard, sorrel (rumex), parsley, leeks, onions, spinach, sage, thyme, mint, horse radish, corn salad, hardy chive, rhubarb, for *grand coup.*

Handihelp

Make a canoe paddle, for *coup.* If decorated with Indian design, *grand coup.*

Make a pair of tilting stools, according to description on page 29. Construct a burlap deer, or a burlap bear, according to Book of Woodcraft. Either for *coup;* both for *grand coup.*

Make a pair of snowshoes. Make a pair of skis, including bending. Either for *coup;* both for *grand coup.*

Towncraft

Plan a correct Council Ring according to this Birch Bark Roll, and supervise and help in the work of preparing the ground and building the seats, for *coup.* Plan the Ring and do all the work of building the seats by self, for *grand coup.*

Forestry

Make a successful swallow bank, not less than 10 feet long and 4 feet high, for *coup.* It is successful when 3 pairs of swallows or other birds have used it. Twice the size with 6 pairs of swallows or other birds, or two such as above, for *grand coup.*

Build an artificial hollow tree, with nesting places for various kinds of wild creatures, to be used by 6 different species of animals (not counting insects), either for nesting or for winter shelter, for *coup.* As above, to be used by 12 species; to be at least 15 feet high and big enough for observer to go inside, for *grand coup.* (See "Bird Lore", January, 1909.)

THE WAY OF THE SECOND LAMP

Water Skill

Measure 10 distances across a river without crossing, averaging within 10 per cent. of accuracy, for *coup*. Within 5 per cent. of accuracy, for *grand coup*. Only axe and pocket rule or tape line permitted.

Travel

Enter the Arctic Circle as captain or leader of expedition by sea, for *coup*. By land, for *grand coup*.

Cross the Equator by sea or rail as captain or engineer, for *coup*. On foot, for *grand coup*.

Take a latitude from the stars at night with a cart wheel or some home made instrument, 10 times from 10 different points of the compass, averaging within 1 degree of accuracy, for *coup*. Within ½ degree of accuracy, for *grand coup*.

Take correct latitude, longitude and local time with instruments, for *coup*. Have passed the Royal Geographical Society's examination for "expert traveler" for *grand coup*.

Make the 4 usual Indian signs and blazes on tree trunks, in twigs, grasses and with stones, and give smoke signals. Add 25 other signs or pictographs used by the Indians, for *coup*. Mark a path or road with these (excepting smoke signals) for 2 miles, so that a party can follow the path marked, for *grand coup*.

Make a correct map of a region one-half mile long by one-quarter of a mile wide (such as half a mile of highway with an eighth of a mile on each side); marking each house, fence, hill, prominent tree, stream and bridge, for *coup*. Map in such a way a territory one mile long by a quarter of a mile wide, map to be drawn approximately to scale, for *grand coup*.

Take a country hike of at least 5 miles, prepared with case or press for specimens. Collect, identify and mount 25 specimens of different species, procured on this hike, for *coup*. (These may be animal, vegetable or mineral.) *Grand coup* for 50 specimens, composed of 15 animal, 30 vegetable

and 5 mineral, all identified and mounted, and found on such a hike.

Go in a canoe, rowboat or sail boat, on stream, pond or sea, and collect, mount and identify, or make accurate drawings to scale, 25 specimens of aquatic life, either animal or vegetable, for *coup*. 50 specimens of aquatic life, mounted, identified or drawn as above, part to be animal and part vegetable, for *grand coup*.

Knots and Ropes

Tie from memory, know the name and use of 20 different standard knots, mounted and tagged for exhibition, for *coup*. 40 for *grand coup*.

Make 10 feet of rope, ½-inch thick, from bark, vine, grass, root or horsehair, which will in actual demonstration support 100 pounds, for *coup*. Make 15 feet of such rope from materials all gathered and prepared by self, for *grand coup*.

Make 15 feet of rawhide riata, preparing the necessary hide from which to make this riata, as well as making the riata itself, for *coup*. Make a rawhide lasso, not less than 25 feet long, equipped with rawhide hondu, all fit and strong for service, for *grand coup*.

Communication

Sign talking. Know and use correctly 200 signs, for *coup;* 400 for *grand coup*.

Peace messenger. Know 100 signs in sign language; and translate into English from some other language, sentences amounting to 300 words, for *coup*. Know 200 signs and translate from 2 languages for *grand coup*.

Wigwag or Myer signalling. Know this code and signal as well as receive a message from ¼ mile away, at the rate of 5 words a minute, for *coup*. Do the same for a mile, at the rate of 15 words a minute, for *grand coup*.

Morse code, same as above.

Semaphore code, same as above.

Heliograph, same as above.

Clothing

Make a pair of leather or skin moccasins of Ojibwa pattern, or of Plains Indian pattern, for *coup*. Make both or bead a symbolic pattern upon either one, for *grand coup*.

Make buckskin from a green hide without the use of any bought chemicals. Prepare the skin of some other animal from the green state until ready for use in some form of clothing. Either for *coup,* both for *grand coup.*

Make a buckskin shirt for *coup.* If decorated with a symbolic pattern, *grand coup.*

Camp Cooking

Boil one quart of water without a kettle or other metal or boughten vessel, for *coup.* Do this in two different ways, for *grand coup.*

Boil one quart of water in a 2-quart, uncovered pail in 12 minutes, for *coup,* or in 9 minutes, for *grand coup.* Allowed, one unsplit log and one axe or hatchet; fire to be made by self, and time to be counted from the beginning of the wood cutting until the water boils. The water is boiling when it is bubbling all over the surface. All work must be done by self.

Food

Identify 25 wild plants having edible roots, shoots, leaves, fruit, seeds or nuts, and describe the method of preparing each for eating, for *coup.* Identify 50 such plants and prepare 5 for eating, for *grand coup.*

Carpenter

Demonstrate the use of the square, level, plumb line, mitre, chalk line, plane, brace and bit, saw, hammer, chisel, draw-knife and driving nails, for *coup.* In addition, lay out a right angle by the 3, 4, 5 plan and orient a foundation for *grand coup.*

Entertainer

Recite at one time the Battle Hymn of the Republic, first two and last two paragraphs of the Declaration of Independence, the Preamble to the Constitution and Lincoln's Gettysburg Address, for *coup.* For *grand coup,* recite in addition five of the following:

Kipling's "Feet of the Young Men."
Gray's "Elegy."
Kipling's "If."
Kipling's "Recessional."
Kilmer's "Tree."

Whitman's "O Captain, My Captain!"
Henley's "Invictis."
Burns' "A Man's a Man for a' That."

Name 10 Americans whom you consider greatest in our history, and tell why you consider them great. Tell briefly of their lives and work, *coup*. Do not include living people. 20 for *grand coup*.

Either of following for *coup;* both for *grand coup*.

(a) Tell entertainingly a different story on each of 10 different occasions, to take not less than 10 minutes each.

(b) Write an original play, based on a folk legend, to include at least one dance, to take not less than 15 minutes to present.

Either of following for *coup;* both for *grand coup*.

(a) Organize and take part in some pageant or other outdoor function, to take at least one hour to present.

(b) Write, direct and take part in some play indoors, of not less than an hour's duration.

Either of following for *coup;* both for *grand coup*.

(a) Give 10 illustrations, scriptural or otherwise, of men getting closer to God, by prayer, fasting and vigil, alone in the wilderness.

(b) Give an account of the annual camp-out instituted by Moses as the Feast of Tabernacles. Describe its social and hygienic significance.

Recite from memory 6 nature songs of the Shakespearean period, for *coup;* 10 for *grand coup*.

Truth Seeker

Read the Talmud, and make a digest of it, in not less than 2,000 words, for *coup;* not less than 5,000 words, for *grand coup*.

As above for Old Testament.
As above for New Testament.
As above for Apocrypha.
As above for Koran.
As above for Zoroaster.
As above for Confucius.
As above for 3 Vedas.
As above for Barclay's "Apology."
As above for Edwin Arnold's "Life of Buddha."

Make a good, careful, comparative analytical study of the following 4; in 2,000 words, for *coup;* 5,000 words for *g. c.*

Dr. Hanna Thomson's "Brain and Personality."
Richard Crane's "Right and Wrong Thinking."
Ingalese's "History and Power of the Mind."
The Gospel according to John.

Make a digest, in 2,000 words, of either of the following, for *coup;* both for *grand coup.*

(a) James' "Psychology." (b) Hall's "Youth."

As above for 2 of the following for *coup;* for 3 for *g. c.*

(a) Plato's "Dialogues."
(b) "Golden Sayings" of Epictetus.
(c) "Meditations" of Marcus Aurelius.

As above for either of the following groups, for *coup;* both groups for *grand coup.*

(a) Iliad, Odyssey and Aeneid.
(b) Eclogues, Bucolics and Georgics.

As above for either of the following for *coup;* both for *g. c.*

(a) Gilbert White's "Natural History of Selborne."
(b) Izaak Walton's "Complete Angler."

Make a digest of Hudson's "Law of the Psychic Phenomena," in 2,000 words, for *coup;* 5,000 words for *g. c.*

Make a digest of Plutarch's "Lives," giving a summary of 20 of the "Lives," for *coup;* of 40 of the "Lives," for *grand coup.*

Farmer

Make a seed tester, and test the germination of 3 kinds of seeds, 100 of each kind, and report results, for *coup.* Make two different kinds of testers and test 6 kinds of seeds, 100 of each, for *grand coup.*

Identify 10 common weeds and tell how to get rid of them, or identify 10 harmful insect pests, tell what they do and how to destroy them. Either for *coup.* Both for *grand coup.*

Stock Farmer

(Only one coup in this department permitted for Sagamoreship.)

Identify 6 different kinds of cattle, telling good and bad points of each, and tell how to treat caked bag or indigestion. Or identify 6 different kinds of horses, telling good and bad points of each, and tell how to treat colic or "scratches." Either for *coup*. Both for *grand coup*.

Same for hogs and sheep, giving treatment for foul claw for sheep and cholera for hogs.

Campercraft

Guess 1 inch, 1 foot, 1 yard, 1 rod, 1 acre, 100 yards, 200 yards, ¼ mile, ½ mile, and 1 mile, for *coup*, total average within 20% of accuracy; within 10% for *grand coup*.

Guess the height of 10 trees or other high things, and the weight of 10 stones or other things ranging from one ounce to 50 pounds, total average within 10% of accuracy, for *coup;* within 5% for *grand coup*.

Measure the height of 10 trees without climbing, or 10 distances across a river without crossing, total average within 10% of accuracy, for *coup;* within 5% for *grand coup;* Tools: an axe and a pocket rule or tape line only.

Know and name 15 star groups, for *coup;* know 20 star groups and tell the names and something about at least one star in each, for *grand coup*.

Identify 10 trees and tell the advantages and disadvantages of the wood from each to the camper, for *coup*. Identify and thus describe 20, for grand coup.

Photography

(All photos must be submitted to Headquarters or the regional Field Council before coup can be granted.)

Make a good, sharp, recognizable photograph of a ruffed grouse (partridge) drumming, a prairie chicken dancing, a woodcock, sage cock or wild turkey strutting, a white crane dancing, or anything of similar nature or value. 5 such, if captive, for *coup*. 1, if wild, for *grand coup*.

Make 10 clear, recognizable photographs of our different native adult wild animals not in captivity, for *coup*. 20 for *grand coup*.

Make 10 good, recognizable photographs of birds' nests, either with young or eggs showing, for *coup*. 20 for *grand coup*.

Make a series of 5 photographs of any wild bird, showing a habitat view, nest, egg or eggs, and development of the young, for *coup*. As above for each of 5 birds for *grand coup*.

Ditto for wild animals.

Make a good, recognizable photograph of a wild animal in the air, that is, jumping clear off the ground, for *coup*. With 2-inch image, for *grand coup*.

Ditto for a fish.

Get 10 good photographs of any wild animal in its native surroundings, for *coup*. If the animal is not looking at you, *grand coup*.

Make 15 clear, recognizable photographs and negatives of insects, butterflies, moths, etc., in natural surroundings, for *coup*. 25 for *grand coup*.

Make 10 good, recognizable photographs of different kinds of adult birds, for *coup*. 20 for *grand coup*.

Make 5 good, recognizable photographs of different kinds of snakes in natural surroundings, for *coup*. 10 for *grand coup*.

Make 5 good, recognizable photographs showing wild creatures of at least two different species in one picture, as turtle and wild duck, frog and snake, muskrat and heron, fish and osprey, for *coup*. 10 for *grand coup*. Same combination not to be repeated in two pictures.

Make photographs of the life history of any insect, showing the food plant, larva, pupa, male and female, for *coup*. 5 such series for *grand coup*.

Make a series of not less than 3 photographs illustrating Council or Woodcraft activities that can be used as lantern slide, for *coup*. As above for descriptive dances. Either for *coup;* both for *grand coup*.

Nature Lore

(In all these *coups,* the word "identify" means show clearly and prove to the satisfaction of the examiner that you can identify. If necessary, pictures may be used for identification when it is impossible to obtain the animal or plant itself.)

Mammals (only one in this department may be counted for Sagamoreship.)

Identify 25 wild or domesticated mammals which have been observed in the field, for *coup.* 45 for *grand coup.*

Identify 50 mammals observed in museum or zoo, for *coup.* 100 for *grand coup.*

Identify 25 fur-bearing animals used commercially, observed in field, museum or fur market, for *coup.* 40 for *grand coup.*

Know the following items about 10 of our wild animals, for *coup;* 25 for *grand coup*:

General color, average size and weight, range, haunts, den, food, enemies, voice, mating habits, character and number of young, home life of the animal, and its use to man.

Birds (Only two in this department may be counted for Sagamoreship.)

Make a record of at least 25 birds, identified and observed in the field, recording name, date, where seen and what doing, for *coup.* 50 for *grand coup.*

Identify in the field 35 wild birds for *coup.* 75 for *grand coup.*

Identify in the field by note 25 wild birds for *coup;* 50 for *grand coup.*

Make careful observations and records of the building of a bird's nest. Records should include description of location of nest, date when started, materials used, how the work was done, and date of completion, for *coup.* In addition, observe the feeding of the young of a pair of birds for 8 continuous hours. Record the time of beginning of observations, time of visit of each parent bird, whether made by male or female, if distinguishable; character of food if possible; location of feeding ground, for *grand coup.*

Identify 100 native birds as seen mounted in a museum, the female and young to count separately when they are wholly different from the male, for *coup.* 200 for *grand coup.*

Identify in the museum the nests of 25 species of wild birds for *coup;* 25 collected after the nesting season and correctly named, for *grand coup.*

Identify in a museum the eggs of 25 species of wild birds, for *coup;* 50 for *grand coup.*

Reptiles (Only 1 in this department allowed to count for Sagamoreship.)

Identify 7 species of snake found in the field and know which are poisonous, for *coup;* 15 for *grand coup.*

Identify 15 species of snake seen living in field or zoological park for *coup;* 25 for *grand coup.*

Identify 7 species of turtle found in field, for *coup;* 15 in field, museum or aquarium, for *grand coup.*

Identify 5 species of lizard found in field or museum, for *coup;* 10 for *grand coup.*

Amphibians (Only 1 in this department allowed for Sagamoreship.)

Make a careful record from observation of the development of an amphibian from an egg to adult, for *coup;* add careful observations upon the habits of the adult, for *grand coup.*

Identify when seen alive 10 species of amphibians, for *coup;* 15 for *grand coup.*

Fish (Only 1 in this department allowed for Sagamoreship.)

Catch and identify 8 species of fish, and give an account of where and how each were caught. Know the main provisions of the game laws concerning fish of your state, for *coup.* 16 species for *grand coup.*

Identify 25 species of fish seen alive or in the market for *coup;* 40 for *grand coup.*

Insects (Only 1 in this department allowed for Sagamoreship.)

Make a Lubbock's ant nest, install a colony of ants, and keep under observation for two months, making a record of what was observed, for *coup.* Of two species of ants, for two months, for *grand coup.*

Identify 15 butterflies in the field, for *coup.* 25 for *grand coup.*

Identify 25 butterflies in the museum for *coup.* 40 for *grand coup.*

Identify 25 moths for *coup.* 50 for *grand coup.*

Identify 50 insects other than those included in the above coups, for *coup.* 100 for *grand coup.*

Collect and mount for comparison the 4 cocoons, Promethea, Cynthia, Cecropia and Polyphemus and give life cycle, for *coup.* Same for caterpillar and moth of each, for *grand coup.*

Take full charge of a swarm of bees for two months, and record habits of bees observed, amount of honey made, condition of swarm at close of period, for *coup;* six months for *grand coup.*

Trail (not casually discover) a colony of honeybees to a bee tree, for *coup.* Transfer the bees to a modern hive acceptable to the bees, for *grand coup.*

Spiders

Identify 8 species of spiders and observe and record the steps in the spinning of a spider's web. The record should contain the name of the spider observed, dates of record, location of web, exact time each observation was made and sketch of the appearance of the web at each observation, for *coup*; study and record the web building of 5 species, for *grand coup.*

Lower Animals (Only 1 in this department allowed for Sagamoreship.)

Identify 8 crustaceans observed alive in nature, for *coup;* 12 for *grand coup,* with a description of the habits and economic importance of 2 of them.

Find in the field and identify 25 salt water shells for *coup;* 40 for *grand coup.*

Identify 10 other sea animals observed alive and give an account of 2 of them, for *coup;* 20 for *grand coup.* Lists must not contain any animals for which credit has been received elsewhere.

Make and maintain successfully for 8 weeks a salt or fresh water aquarium containing not less than 3 gallons of water and not less than 5 forms of animal life. Keep a careful record of how the aquarium was cared for and of the habits of the animals, for *coup;* one year's success for *grand coup.*

Wild Flowers (Only 1 in this department allowed for Sagamoreship.)

Find in the field 40 wild flowers and record for each species the name, date, when seen, place where seen, char-

acter of habitat, abundance, and know what wild flowers need protection, for *coup;* 80 for grand coup.

Identify 40 garden flowers for *coup;* 60 for *grand coup.*

Collect and identify 20 weeds found in garden or cultivated crops, for *coup;* 40 for grand coup.

Collect and identify 8 grasses, for *coup;* 16 for *grand coup.*

Make blue prints of 30 wild flowers which have been identified, for *coup;* 50 for *grand coup.*

Trees and Shrubs (Only 2 in this department allowed for Sagamoreship.)

Identify by leaf or fruit, or both, according to any standard authority, 25 trees and tell something interesting about each, for *coup;* in addition, identify by twigs and bark in winter 20 trees, for *grand coup.*

Identify, according to any standard authority, 20 shrubs, for *coup;* in addition, identify by twigs and bark in winter 15 shrubs, for *grand coup.* List must not contain any species for which credit has been given in tree coup.

Make a set of blue prints, ink prints or smoke prints of the leaves of 25 species of trees and correctly label. Make a set of blue prints, ink prints or smoke prints of 25 shrubs and correctly label. Either for *coup;* both for *grand coup.* This coup may be taken instead of the first one in this department, but both may not be counted by the same person for Sagamoreship or lower degree.

Make a collection of the woods of 20 native trees, samples to be not less than 2 inches in diameter, and of uniform length, for *coup.* In addition, make an exhibit of 10 different forest trees, mounting in permanent form, leaf, flower, fruit, bark, twigs, to show the method of branching and specimen of wood of each species, for *grand coup.*

Fruits and Seeds

Collect and identify the seeds of 40 plants including the fruit where possible, for *coup;* 75 for *grand coup.*

Non-flowering Plants (Only 1 in this department for Sagamoreship.)

Identify from living plants 18 ferns, for *coup;* 35 for *grand coup.*

Identify from living plants 15 mosses and lichens, for *coup;* 30 including at least 4 club mosses, for *grand coup.*

Dry and mount 25 ferns, properly identified, for *coup;* 50 for *grand coup.*

Identify 25 mushrooms, stating which are poisonous. Identify 10 species of under-water plant. Either for *coup;* both for *grand coup.*

Geology, etc.

Identify 30 minerals. Identify, referring to their proper strata, 20 fossils. Either for *coup;* both for *grand coup.*

Know, name and describe the 14 great divisions of the earth's crust, according to any established authority; also define watershed, delta, drift, fault, glacier, terrace, stratum, dip, and identify 10 different kinds of rock, for *coup.* In addition, define sediment, metamorphic, anticlinal, synclinal, moraine, coal, metal, mineral, petroleum, and identify in all 20 kinds of rock, for *grand coup.*

Taxidermy

Skin and mount, according to accepted standards of taxidermy, a specimen of a bird, fish or mammal, for *coup;* 3 for *grand coup,* including 1 of each.

Tracks

Draw from observation made in the field, and identify the tracks of 15 wild or domesticated animals, for *coup;* 25 for *grand coup.*

Eyesight

Make a 75 score in 10 tries in the game of Quick-sight, with ten counters for *coup.* A 95 score, for *grand coup.*

Towncraft

City Hunter. Find and sketch 25 blazes and totems in town and tell where found; include the distinguishing marks of policemen as used in your town, for *coup.* Find and sketch 50 such totems and include a short history of totems in general, for *grand coup.*

THE WAY OF THE THIRD LAMP

In this, we include all things which develop the imagination, the fine arts, the aesthetic and the spiritual sense, all of one's relation to the world of things unseen, to the land of dreams and ideals, and that help in the domination of the spirit.

Towncraft

Herald. Open and lead council, light the sacred fire with rubbing sticks, make the sand painting, recite the ceremonial (Grand Council) form of the laws, know the Omaha Invocation and 3 Woodcraft songs, for *coup.* In addition, perform 3 Indian dances, and know well the Pathfinder, Sagamore, Naming, Tree-planting, Flower-planting and Peace Pipe Ceremonies, for *grand coup.*

Plan a correct Council Ring according to this Birch Bark Roll, and supervise and help in the work of preparing the ground and building the seats, for *coup.* Plan the Ring and do all the work of building the seats by self, for *grand coup.*

The two following are alternates—may not be taken both by the same person:

Charter a tribe and act as its guide for two years (not less than 12 regular meetings a year, or equivalent), for *coup.* Same for four years, for *grand coup.*

Charter a tribe and act as its guide for two camping seasons (not less than 7 weeks each year, or equivalent), with correct Council Ring and successful councils at least once a week, for *coup.* Same for four years, for *grand coup.*

Fire-Making

Make a set of fire sticks from material of one's own gathering (except that the thong may be bought), and get with it a fire, for *coup.* Get a fire in one minute from such a set, and tell the story of the first fire, for *grand coup.*

Make a fire set for lighting a fire without the use of a bow, and get a fire with it, for *coup.* Get a fire in 2 minutes with such a set, for *grand coup.*

Forestry

Plant successfully not less than a square yard each of 5 different kinds of wild flowers in a new locality, not necessarily all on one occasion, but using the Woodcraft Planting Ceremony on each occasion. Plant successfully 10 trees in a new locality. Either for *coup;* both for *grand coup.*

Establish a bird sanctuary, with dog-proof fence if necessary, at least 20 bird houses used by not less than 10 different kinds of birds, and equipped with water (at least a bird bath), for *coup.* With 40 bird boxes and the place used for nesting by at least 20 species of birds, for *grand coup.*

Make a successful swallow bank, not less than 10 feet long and 4 feet high, for *coup.* It is successful when 3 pairs of swallows or other birds have used it. Twice the size, with 6 pairs of swallows or other birds, or two such as above, for *grand coup.*

Build an artificial hollow tree, with nesting places for various kinds of wild creatures, to be used by 6 different species of animals (not counting insects), either for nesting or for winter shelter, for *coup.* As above, to be used by 12 species; to be at least 15 feet high and big enough for observer to go inside, for *grand coup.* (See "Bird Lore.")

Establish a wild rice or water celery bed, of not less than ¼ acre, in a new region, to be visited as a feeding ground by at least 6 kinds of wild ducks or geese, for *coup.* ½ acre, or two such as above, with 12 kinds of wild ducks or geese, for *grand coup.*

Establish and maintain for 3 months a feeding station, to be visited by at least 6 species of bird, noting the first appearance of each species, for *coup.* As above for 6 months, including 3 winter months, to be used by at least 10 species, for *grand coup.*

Health

Pass 30 successive nights out of doors, never once sleeping under a roof, but in tent, teepee, or open, for *coup.* 60 nights of same, and tell the Story of the Angel of the Night, for *grand coup.* (See The Secrets of Woodcraft, p. xxii.)

Dancer

All of the following dances, except those in (a), must be of not less than 2 minutes' duration, and presented on some

public occasion.

Do 5 of the following for *coup;* 10 for *grand coup:*

(a) Dance correctly 6 simple European folk dances.

(b) Dance correctly the quadrille, lancers and Virginia reel.

(c) Dance a good cakewalk.

(d) Dance the minuet and the gavotte.

(e) Dance a Spanish dance.

(f) Dance a Japanese dance.

(g) Dance a standard Scottish dance.

(h) Dance an Irish dance.

(i) Dance an Egyptian dance.

(j) Dance an Italian dance.

(k) Dance a Greek dance.

(l) Dance a Russian dance.

(m) Dance two solo Indian dances.

Either of following for *coup;* both for *grand coup.*

(a) Act as leader in 8 different dances, and teach a class of at least 6 pupils 8 dances, representing 4 of the different departments mentioned above.

(b) Compose, teach and present publicly a dance for a group of not less than 6, to take at least 3 minutes.

Either of following for *coup;* both for *grand coup.*

(a) Write and present a dance drama, to take not less than 15 minutes to present.

(b) Record a new Indian dance (i.e., one not in the Birch Bark Roll) from actual Indians, and teach same so it can be presented.

Entertainer

On five different occasions, do all the planning of program, training of entertainment, and presiding over a grand council of not less than 25 people, to take at least two hours; entertainment on each occasion to be entirely different. Council must include business, song, dance, challenges, etc., for *coup.* On ten occasions as above, for *grand coup.*

Either of following for *coup;* both for *grand coup.*

(a) Sing solo and from memory, 5 different American folk songs and 5 European folk songs. (A folk song is a song which was evolved by the people,—not by a person,—expressing the genius or life of the people.)

(b) Write an original song with words and music, not less than 2 verses of at least 8 lines each, or equivalent.

Either of following for *coup;* both for *grand coup.*

(a) Play a different instrumental solo on each of 8 public occasions, or act as accompanist at least 8 times for some public event, without pay.

(b) Take part on 8 or more occasions as a member of a quartet, glee club, choir, etc., or solo, or as a member of an orchestra, band, etc., or solo, without pay.

Either of following for *coup;* both for *grand coup.*

(a) Tell entertainingly a different story on each of 10 different occasions, to take not less than 10 minutes each.

(b) Write an original play, based on a folk legend, to include at least one dance, to take not less than 15 minutes to present.

Either of following for *coup;* both for *grand coup.*

(a) Organize and take part in some pageant or other outdoor function, to take at least one hour to present.

(b) Write, direct and take part in some play indoors, of not less than an hour's duration.

Either of following for *coup;* both for *grand coup.*

(a) Give 10 illustrations, scriptural or otherwise, of men getting closer to God, by prayer, fasting and vigil, alone in the wilderness.

(b) Give an account of the annual camp-out instituted by Moses as the Feast of Tabernacles. Describe its social and hygienic significance.

The following *coup* is open only to those over 18, and under the advice of a physician.

Fast alone, and in a high place if possible, for 48 hours, for *coup;* 3 days and night, for *grand coup.* May read and sleep. Water permitted.

The following *coup* open only to those over 15; *grand coup* open only to those over 18.

Watch and wait alone, preferably in some high sheltered place in the wilderness, by a fire, without reading, smoking, eating or drinking (except water), from sunset to sunrise, for *coup.* As above for 36 hours, comprising 2 nights and 1 day, for *grand coup.*

Wholly abstain for three months from your besetting sin,

for *coup;* 6 months for *grand coup.* You need not tell what it is, but be able to give word of honor to those in charge.

If the above *coup* includes the following, both may not be counted.

Speak no sullen, impatient, angry or unkind word, for one month, for *coup.* Three months for *grand coup.*

Cheerfully perform some unpleasant duty each day for 3 months, for *coup;* 6 months for *grand coup.*

Deny one's self some material thing which is much liked but not needed for three months, for *coup;* 6 months for *grand coup.*

Train some wild bird or animal so that it will come when called, and eat from hand, for *coup;* both a bird and animal, for *grand coup.*

Truth Seeker

Write, in not less than 1,000 words each, a summary of what was done for natural science by 5 of the following men, for *coup;* 10 for *grand coup:* Linnaeus, Nuttall, Audubon, Brehm, Darwin, Russell Wallace, Charles Waterton, Sir John Richardson, Alexander Humboldt, Dr. Elliott Coues, Fabre.

Read the Talmud, and make a digest of it, in not less than 2,000 words, for *coup;* not less than 5,000 words, for *g. c.*

As above for Old Testament.
As above for New Testament.
As above for Apocrypha.
As above for Koran.
As above for Zoroaster.
As above for Confucius.
As above for 3 Vedas.
As above for Barclay's "Apology."
As above for Edwin Arnold's "Life of Buddha."

Make a good, careful, comparative analytical study of the following 4; in 2,000 words, for *coup;* 5,000 for *grand coup:*

Dr. Hanna Thomson's "Brain and Personality."
Richard Crane's "Right and Wrong Thinking."
Ingalese's "History and Power of the Mind."
The Gospel according to John.

Make a digest, in 2,000 words, of either of the following, for *coup;* both for *grand coup*:
(a) James' "Psychology." (b) Halls' "Youth."

As above for 2 of the following for *coup;* for 3 for *grand coup.*
(a) Plato's "Dialogues."
(b) "Golden Sayings" of Epictetus.
(c) "Meditations" of Marcus Aurelius.

As above for either of the following groups, for *coup;* both groups for *grand coup*:
(a) Iliad, Odyssey and Æneid.
(b) Eclogues, Bucolics and Georgics.

As above for either of the following for *coup;* both for *grand coup*:
(a) Gilbert White's "Natural History of Selborne."
(b) Izaak Walton's "Compleat Angler."

Make a digest of Hudson's "Law of the Psychic Phenomena," in 2,000 words, for *coup;* 5,000 words for *grand coup.*

Make a digest of Plutarch's "Lives," giving a summary of 20 of the "Lives," for *coup;* of 40 of the "Lives" for *grand coup.*

Recite from memory 6 nature songs of the Shakespearean period, for *coup;* 10 for *grand coup.*

THE WAY OF THE FOURTH LAMP

Towncraft

City Hunter. Find and sketch 25 blazes and totems in town and tell where found; include the distinguishing marks of policemen as used in your town, for *coup.* Find and sketch 50 such totems and include a short history of totems in general, for *grand coup.*

Travel

Lay out a trail through new territory for 2 miles, marking the same with blazes or monuments, so that others can easily follow from either direction, for *coup;* for 5 miles, for *grand coup.*

Camp Tools and Furniture

Make and decorate a tom-tom for *coup.* If log is burned or hollowed out, and skin is prepared from green state by self, *grand coup.*

Build a strong, serviceable table at least 4 x 8 feet and a solid bench to use with it, both of wildwood material, for *coup.* If no nails are used, *grand coup.*

Make a serviceable watertight bucket or wash basin of wildwood material, at least 5 x 8 inches, for *coup.* Make both, each to be at least 7 x 10, for *grand coup.*

Make a serviceable basket of wildwood material, not less than 6 inches in diameter, for *coup.* If made with a handle, is not less than 10 inches in diameter, and will carry 25 pounds, *grand coup.*

Unless forbidden by forestry laws, make a comfortable bough bed, properly laid. Make a grass rug, at least 2 x 5 feet on a string camp loom. Both to be made of material gathered by self. Either for *coup;* both for *grand coup.*

Make an Indian bed of at least 60 rods, all tied tight, for *coup.* Make one of 80 or more rods, with 4 cords all tied tight and straight, and with a decorated head, for *grand coup.*

Make a good, serviceable camp chair, picturesque and decorated, entirely from wildwood material. Make a serviceable hammock of wildwood material. Either for *coup;* both for *grand coup.*

Make a hunter's lamp, a set of tilting spears and a totem for tribe or band, all of wildwood material except oil for lamp and colors for painting, for *coup*. If entirely of wildwood material, *grand coup*.

Make a noggin out of a tree boll and decorate it. Make a wooden kneading trough of smooth interior surface, not less than 6 x 12 inches, or make a waterproof vessel of wildwood material to hold at least 2 quarts and attach handle to same (spruce gum allowed). Either for *coup;* both for *grand coup*.

Cooking

Cook 12 digestible meals using ordinary camp equipment, of various menus to serve 2 or more persons, properly disposing of waste, for *coup;* 24 such meals, for *grand coup*.

Without pots or pans, cook a digestible meal including fish or meat, potatoes or some other vegetable, and bread, for *coup*. Cook 3 such meals with different menu each time, for *grand coup*.

Mix and bake 12 batches of good bread by a camp fire in a Dutch oven, frying pan or reflector, for *coup;* 12 such batches, including all 3 methods, for *grand coup*. Patent flour not to be used.

Build out of doors a clay, stone or brick oven which will bake good bread, for *coup*. Make and bake good, digestible bread in such an oven after building it, for *grand coup*.

Food

Make one pint of edible acorn flour and prepare same for eating. Grind one pound of corn meal in a self-made mortar, prepare for cooking and cook into good eatable cakes. Either for *coup;* both for *grand coup*.

Make for actual use 5 pounds of jerky, or 5 pounds of pemmican, for *coup*. Make 5 pounds of each, all to be used, for *grand coup*.

Make an "Indian well" and get clean water from a swamp or other place where the water is undrinkable, for *coup*. Build 6 such wells, each in a different swamp, for *grand coup*.

Collect maple juice and make one quart of maple syrup and one pound of maple sugar, for *coup*. In addition make

one pint of syrup from box elders, birches or hickory trees, or from honey locust pods, for *grand coup.*

Shelter

Without breaking forestry laws, build a usable log cabin, with walls plumb and true and rainproof, at least 6 x 8 feet in size, for *coup.* In addition, build a fireplace that will draw, opening to be not less than 24 x 24 inches and 16 inches deep, for *grand coup.*

Make a rainproof shelter other than the above, of wildwood material, at least 6 x 8 feet in size, 3 times for actual service, for *coup.* If equipped with windproof walls and wildwood bed, suitable for 2 or more campers, *grand coup.*

Make a 2-man tent or an 8-foot teepee or better, from cloth dyed and waterproofed by self, for *coup.* In addition, set up alone a 2-man tent with walls taut, sides true, bottom pegged and trenches dug, 20 times, for *grand coup.*

Make a miniature teepee according to directions in Totem Board. Make a miniature Council Ring, according to directions in Totem Board. Either for *coup;* both for *grand coup.*

Axemanship

Cut (and split if need be) sufficient rails to enclose an adequate horse corral 60 feet across. Build the same. Either for *coup;* both for *grand coup.*

Chop down 3 six-inch trees in succession in 60 seconds each, throwing them to drive each a given stake, for *coup.* In 45 seconds each, for *grand coup.*

Health

(The following coups are to be all according to the standards of the American Red Cross.)

Describe in detail the treatments for the bite of a poisonous snake, dog, or any other animal with septic possibilities, and for a severe hemorrhage, and apply correctly a tourniquet to an arm or a leg, for *coup. Grand coup* for the successful treatment of an actual case of either.

Demonstrate the treatment for 3 varieties of fracture, and apply a good bandage to each of 5 different parts of the body, for *coup.* Demonstrate treatment for 6 varieties of fracture, and apply good bandages to 10 different parts of the body, for *grand coup.*

Pass the Red Cross or other standard Life Saving Test for life saving in the water, for *coup*. For an actual rescue, even though the victim die after or during the rescue, *grand coup*.

Make a sweat lodge and use it properly for 3 times a week (in 2 of which it may be used by another person), for *coup*. Run a sweat lodge successfully for a month, giving at least 12 treatments, for *grand coup*.

Make and run for 7 days a flyless and practically odorless latrine, for *coup;* 30 days for *grand coup*.

Demonstrate the Schaefer method of resuscitation from drowning and describe in detail the whole treatment of a drowned person from the time of taking from the water until he can be left alone, for *coup*. In addition, describe in detail first aid treatment for 8 of the following: Sunburn, sunstroke, chill from exposure, colic, diarrhea, toothache, earache, poison ivy, insect bites, hiccough, eating poisonous plants, burns or scalds, nose bleed, bruises, sprains, foreign bodies in the eye, for *grand coup*.

Throwing Life Buoy. For those under 18: To throw it 40 feet within 10 feet of the mark, for *coup*. To throw it 45 feet within 5 feet of the mark for *grand coup*. In each case, 3 times out of 5.

For those over 18: To throw it 55 feet within 10 feet of the mark, for *coup*. To throw it 60 feet within 5 feet of the mark, for *grand coup*. In each case, 3 times out of 5.

Soldiers' war medals, a *grand coup* each.

Colonial Handicraft

Do 2 of the following for *coup;* 4 for *grand coup:*

(a) Make 4 bayberry candles, each not less than 6 inches long and ½ inch thick, from material gathered and prepared by self.

(b) Make one pound of hard and one pound of soft soap from material prepared by self. For hard soap, lye may be bought.

(c) Construct a lye gum or leach tub with properly constructed filter of wildwood material, and with this lye gum, make enough lye from wood ashes to make one gallon of soft soap.

(d) Make one pint each of 6 different dyes from wildwood material.

(e) Dye 6 squares of white woolen material, each not less than 4 x 4 inches, or 6 bunches of porcupine quills (20 quills each) each a different color with stuff found in the woods, for *coup;* 12 for *grand coup.*

Do 2 of the following for *coup;* 3 for *grand coup:*

(a) Make 3 pounds of any 3 of the following: butter, cheese, sausage, head cheese, lard, tallow, neatsfoot oil.

(b) Dry 3 pounds (weight when dried) of some fruit or vegetable, to include at least 3 varieties.

(c) Grow, gather, dry and use half a pound of lavender flowers or of lemon verbena (tripolium).

Make an applique or patchwork cover for a quilt, at least 60 x 84 inches, and quilt the same in designs or in rectangles not less than 2 inches square. Make a sampler with 2 sets of letters (capitals and small), also the numerals, the maker's name and date and a text or proverb. Either for *coup;* both for *grand coup.*

Weaving

Card, spin and dye enough cotton, wool, flax or hemp to make 5 yards of goods. Weave 5 yards of cloth, 36 inches wide, or its equivalent, half to contain a design. Either for *coup;* both for *grand coup.*

Make a rug, at least 2 x 5 feet, woven, knitted, crocheted, braided or hooked. Cut, select, sew, ball and arrange rags for making 5 yards of good rag carpet. Either for *coup;* both for *grand coup.*

Weave, knit or crochet scarfs containing at least 10 square feet, or a bedspread. Arrange warp in a loom for weaving, with 2 harnesses and 2 treadles. Either for *coup;* both for *grand coup.*

Weave a hammock or fish net, knots not to be more than 2 inches apart, for *coup.* With knots one inch apart or less, for *grand coup.*

Make a loom, and on it make a beaded head band, chain, belt or bag, containing at least 20 square inches, with a good design. Make a piece of quill work, not less than above size, quills to be dyed by self with wildwood dyes made by self. Either for *coup;* both for *grand coup.*

Make a Navaho loom for blanket weaving, and on same

make a rag, grass or yarn mat, not less than 2 x 5 feet, or its equivalent in smaller mats, to be used for 3 months and remain intact. Make a hand loom for weaving braid or tape, half an inch wide, and use it successfully, making at least 1 yard of braid or tape on it. Either for *coup;* both for *grand coup.*

Basketry, Etc.

Make 2 baskets of different designs and shapes (each large enough to hold 2 quarts) of rope, raffia, grass, rattan, splits, pine needles or willow. Weave a hat of straw or corn husks. Either for *coup;* both for *grand coup.*

The two coups following are alternates—that is, may not be counted both by the same person for Sagamoreship or lower degree.

Do 1 of the following for *coup;* 2 for *grand coup:*

(a) Make a broom from broom corn, raised and prepared by self.

(b) Make a "Boonder broom" (scouring brush) in floor-scrubbing size with handle (one piece), total length of handle and broom 4 feet.

(c) Make from hard bone a corn-husking peg of practical usable size, fitted with finger straps of strong leather, and husk 5 bushels of corn with this peg.

(d) Make a set of wooden hinges and latch, and fit these to a door so that it hangs true and latches well.

Do 1 of the following for *coup;* 2 for *grand coup:*

(a) Make solid "four-posters" for a willow bed, and make a stout bench from split logs, with driven legs (no nails).

(b) Build a useful foot bridge by felling a tree whose logs shall span a stream or chasm at least 25 feet between the two natural abutments on which the log rests. (Note: The stump may form one abutment, provided the foot bridge may be made readily accessible by means of a dirt fill, stone approach or gangplank of natural material.)

(c) From a log hew a plank (not a slab) not more than 3 inches thick in any part, and not less than 10 feet long.

(d) Split from a log, ready for use, 200 shingles. The use of a saw and plane not permitted for either this or the preceding. An auger may be used.

Metal Work

Do 2 of the following for *coup;* 3 for *grand coup:*

(a) Make an article in etched metal work, such as a sundial or an ornamental name plate.

(b) Make a set of 4 small knockers, for study, playroom, bedroom, etc., each with an appropriate design, or make a large knocker of Colonial or Indian design.

(c) Make 4 of a set of fire shovel, tongs, poker, hearth brush, stand and scuttle.

Do 2 of the following for *coup;* 4 for *grand coup:*

(a) Make a set of andirons, or a swinging crane with hooks.

(b) Make a toasting fork, warming pan, corn popper and trivet for tea kettle; or a decorated brass tankard with cover.

(c) Make a hall or porch lantern with its bracket.

(d) Make a set of ornamental door hinges, key escutcheons, door latch or door handle.

(e) Make a set of tracking irons.

(f) Make a set of 4 candlesticks and a fire-bowl for the altar fire.

Leather Work

Make a box or bag for a rubbing stick set, with an extra compartment to hold tinder, attractively decorated with bead or quill work to the extent of 4 square inches. Make 2 limp leather covers, such as for tally book or wampum book, well decorated with appropriate designs in tooling, etching, applique, painting, quill or burnt work. Either for *coup;* both for *grand coup.*

Wood Carving

Do 2 of the following for *coup;* 3 for *grand coup:*

(a) Make 3 useful articles, such as spoon, fork, fire-socket, bowls, etc., and decorate same with Indian design.

(b) Make a picture frame at least 8 x 10 inches, with back and inset for glass, out of a single piece of wood, and decorate same with carving.

(c) Carve a motto, appropriate for mantle or elsewhere, of at least 15 letters.

(d) Carve a chain out of a solid piece of wood, of 5 links, all to be intact.

(e) Carve a peace pipe as per instructions in Totem Board.

Designing

Do 1 of the following for *coup;* 2 for *grand coup:*

(a) Decorate a tally book, containing at least 48 pages, with designs appropriate for each honor claim.

(b) Make wash drawings in color of an indoor council and of an outdoor council.

(c) Make working drawings of original designs for 5 of the following: Totem pole, bench, Chief's seat, chair, window box, bird house, vivarium, magazine rack, or other practical Woodcraft article.

(d) Make 25 drawings from life of wild flowers, birds, fishes, moths, butterflies or insects. (This may be counted as a *coup* in the Way of the Second Lamp, but may not be counted in both departments.)

Garden Helper

Once a week for 25 weeks in 1 year, cut the grass, trim the edges, clean the walks, loosen ground around hedges, bushes, etc., on a space not less than 25 x 25 feet, for *coup.* Same for 2 years, for *grand coup.*

Sewing

Plan, make and fit up complete for outdoor sleeping, a sleeping bag that can be easily ventilated, for *coup.* In addition, plan and make complete outfit for the sleeper, including bed-sox, for *grand coup.*

Decorate a Sagamore blanket or robe, containing at least 24 coup feathers and 6 other symbols or emblems, for *coup.* A Sachem robe or blanket containing at least 48 coup feathers and 10 symbols or emblems, for *grand coup.*

Show hand-made samples of the following stitches: Basting, hemming, running, felling, backstitching, gathering, overcasting, buttonholing, sewing on buttons, herringbone, feather, darning stocking, darning a tear, patching, double feather, tucking, French knots, hemstitching, cross-stitching, blanket stitching, eyelet, blind loop, French hem on damask, and

mitering a corner, for *coup*. In addition, make a well-made dress entirely by hand, for *grand coup*.

Make a costume for each of five different Council activities, costumes to be the property of the Tribe, for *coup*. For each of ten as above, *grand coup*. These need not be made entirely by hand.

Cooking

Do all cooking at home for 3 meals a day for not less than 4 persons for 1 week, or its equivalent, for *coup*. For a month, for *grand coup*.

Collect and prepare 3 kinds of fruit and make jelly to the amount of 10 quarts, for *coup;* 20 quarts, including 6 kinds of fruit, for *grand coup*.

Farming

Do 1 of the following for *coup;* 2 for *grand coup:*

(a) Seed 5 acres of land or weed 5 acres with cultivator.

(b) Cut, rake and bunch 3 acres of hay, or haul and store hay from 3 acres, either in mow or in stack.

Do 1 of the following for *coup;* 2 for *grand coup:*

(a) Describe in full when and how to plant peas, lima beans, string beans, turnips, carrots, potatoes, parsnips, kohlrabi and beets, and successfully raise any 5 of these.

(b) Tell when and how to sow and reap wheat, oats, barley, rye, buckwheat, red clover, white clover, alfalfa, timothy, and 2 other kinds of grasses, and successfully raise 5 of these.

Stock Farming

(Only 1 in this department permitted to count toward Sagamoreship.)

Raise at least 4 beeves, hogs or sheep for market or for home consumption, for *coup*. Any 2 of these for *grand coup*.

Successfully raise 1 pig, 1 lamb or 1 calf from 3 days to 3 months without its mother, for *coup*. *Grand coup* for all 3.

Care for a team of horses or mules for 3 months, including bedding, currying, feeding, watering, etc., every day, for *coup*. Same for 6 months for both horses and mules, for *grand coup*.

Gardening

Do all the work of a successful flower garden, not less than 20 x 20 feet, and the same for a vegetable garden the same size, for *coup*. In addition, have a successful perennial vegetable garden for 2 years, to contain at least 6 of the following: asparagus, swiss chard, sorrel (rumex), parsley, leeks, onions, spinach, sage, thyme, mint, horse radish, corn salad, hardy chive, rhubarb, for *grand coup*.

Do 2 of the following for *coup;* 3 for *grand coup:*

(a) Have 4 window boxes, at least 24 x 8 inches, or equivalent, of successful, growing plants, planted and cared for by self, for 4 months.

(b) Plant and raise successfully by self a dozen plants each of 5 of the following: cucumbers, tomato, egg plant, pumpkin, watermelon, muskmelon, peppers, cabbage, cauliflower, headed lettuce, swiss chard.

(c) Identify 20 different kinds of garden flowers, tell where they grow best and when, and raise 10 of them.

Small Stock Farming

Build a correct beehive and an approved rabbit hutch, for *coup*. In addition, raise a swarm of bees and a pair of rabbits, using same, for *grand coup*.

Hatch and raise a brood of a dozen chickens, turkeys, ducks or geese. *Coup* for any two; *grand coup* for four.

Nature

Make and maintain for a season a bird bath. Record the visits of at least 10 species, including the dates when seen, for *coup*. Maintain the bath for 6 months and record visits of at least 15 species. Tell about 10 methods of bathing and the birds that do them, for *grand coup*.

Build and put up a birds' nesting box which is used by a pair of birds, and keep a record of its tenants for one season, for *coup;* 5 such boxes and records, for *grand coup*.

Build 5 bird boxes or shelters and set them up, to be tenanted by at least 3 different species of birds, for *coup;* 10 boxes or shelters tenanted by 6 different species, for *grand coup*.

Build a bird bath. Build a dust bath. Either for *coup;* both for *grand coup.*

Tent Caterpillar or Web Worm. Save trees by destroying 500 of the tents or 1,000 egg clusters, for *coup.* Double the number for *grand coup;* 100 separate worms or 25 of the moths may be counted as one tent.

Gypsy Moth. As above.

Browntail Moth. As above.

Pottery and Cement Work

(It is not necessary to fire ware by self, except where so specified.)

(Only 2 allowed to count for Sagamoreship or lower degree.)

Do 1 of the following for *coup; 2* for *grand coup:*

(a) Make and decorate 4 clay pieces, one a bowl and the others optional, clay to be gathered and dish fired by self.

(b) Make by coil process 4 bowls, each decorated with a different authentic Indian design (such as Zuni, Acoma, San Domingo, Moqui).

(c) Make a practicable potter's wheel and with this wheel, make 12 different pieces of pottery.

(d) Make a practicable potter's kiln and in this kiln fire successfully 12 pieces of pottery.

(e) Make a rectangular shallow dish for ferns, glazed to prevent leakage, and at least 10 x 6 x 2 inches, and decorated with original design.

(f) Make a set of 4 candlesticks and fire bowl for the altar fire.

Make a bowl or vase with lip, for *coup.* In addition, describe the principal varieties of native clays, tell where they are found and what colors they take when baked. Tell how ancient and prehistoric pottery of America may be distinguished from that made today, and describe the Zuni method of firing, for *grand coup.*

Paint "overglaze" a set of 6 china dishes, using a native American design. Ditto for "underglaze" painting. Either for *coup;* both for *grand coup.*

Make a bird bath, at least 12 inches in diameter, which is used by birds. Make a cement flower box, at least 6 x 8 x 20, waterproofed and drained. Either for *coup;* both for *grand coup.*

Handihelp

Make a rush seat of rushes gathered and prepared by self. Cane a chair seat. Either for *coup;* both for *grand coup.*

Make a canoe paddle, for *coup.* If decorated with Indian design, *grand coup.*

(a) Make a model sail boat, at least 12 inches long, which works properly. (b) Make 5 of the following: balanced top, scales, kite, pipe for blowing bubbles, pop gun of elder, whistle of willow, worsted ball with crewel cover, pair of stilts. Either for *coup;* both for *grand coup.*

Make a pair of snowshoes. Make a pair of skis, including bending. Either for *coup;* both for *grand coup.*

Make a pair of tilting stools, according to description on p. 29. Construct a burlap deer, or a burlap bear, according to Book of Woodcraft. Either for *coup;* both for *grand coup.*

DEGREES IN WOODCRAFT

The Degrees in Woodcraft are given because of general all-around proficiency. They cover all phases of Woodcraft and enable Woodcrafters to work along lines which arouse the most interest and give the greatest pleasure. Some subjects are of interest to only one sex, but all are open to both sexes.

This list is made by the Council of Guidance. The degrees are founded on world-wide standards, and with the help of the best experts. The Council will gladly consider any suggestion *but it must be understood that no local group has any power to add to or vary the degrees in any way whatever.*

Animal man

Art Craftsman

Athlete

Backwoods Handicraft

Bird Sharp

Bug man

Camper

Camp Cook

Camp Craftsman

Camp Doctor

Canoeman

Colonial Housekeeper

Dancer

Entertainer

Farmer

Fisherman

Foodcraft

Forester

Friend of the Little Brothers

Friend of Wild Life

Gleeman

Herald

Horseman Dedicated to Wade Dudley

Hunter

Hunter in Town

Indian Craft

Indian Lore

Little Planter

Moccasin Runner

Mountaineer

Planter

Potter

Scout

Seamanship

Sharpshooter

Star Wiseman

Swimmer

Teacher

Three Years' Service Dedicated to Carl E. Ekstrand

Traveler

Village Scout

Whiteman's Woodcraft

Wise Woodman

Wood Music

Claiming Degrees

A Degree may be claimed at Council after application has been made on a properly filled form which sets forth the claim with sufficient witnesses to prove legally that the test was fairly taken.

The Degree Claim is certified by the Chief and Tally Keeper of the Council conferring it, and returned to the applicant, but record is kept in the Tribal Tally.

None but Chartered Tribes in good standing have power to award either Coup or Degree Badges.

Animal Man

(*Wamakaskan*)

The degree of Animal Man may be conferred upon any one who takes 10 of these tests.

1. Draw from observation and identify the tracks of ten species of mammals.
2. Make a black track of four mammals (see Totem Board, January, 1925).
3. Follow the track of an animal or person (snow or mud allowed) for a mile and identify the species trailed.
4. Mount a mammal, according to the accepted standards of taxidermy.
5. Tan the pelt of some animal larger than a fox, so that the fur will not slip.
6. As above for a fox or a smaller animal.
7. Take a good recognizable photo of some wild animal in the field.
8. Take 10 good recognizable photos of ten species of wild mammals in captivity.
9. Tame some free wild animal so that it will come when called.
10. Identify 20 wild or domesticated mammals which have been observed in the field.
11. Identify 50 mammals in a Museum.
12. Identify and give the life history of five species of mammals which spend most of their time in the water.
13. Identify 20 fur bearing animals used commercially, observed in the field, museum or fur market.
14. Identify the horns from 10 species of wild animals and tell the distinguishing marks of each (antlers included).
15. Observe and study carefully the habits of some wild animals for two or more years, and write a record of your observations.

Art Craftsman

(*Moninieio*)

The Degree of Art Craftsman may be conferred on any one who takes fifteen of these tests:

1. Make a ceremonial belt of beadwork telling a story.
2. Make a costume for some Woodcraft activity.

3. Embroider a ceremonial dress, symbolic or Indian design.

4. Make a head band or shoulder strap or equivalent work in quill work.

5. Make and decorate a pair of Indian leggings or moccasins.

6. Make a leather cushion cover with beadwork, or appliqué one of linen, or a woven cover.

7. Weave a rug, Indian design preferred.

8. Make a box for coup feathers of leather or of birchbark.

9. Make an attractive box or bag for rubbing sticks and tinder.

10. Decorate a Sagamore or Tribal robe or blanket.

11. Make three useful articles with burnt work decorations.

12. Carve three useful articles such as spoons, forks, bowls, fire socket, and ornament with Indian designs.

13. Make a frame for picture out of a single piece of wood at least eight inches by ten inches.

14. Make a tray in basketry complete with glass mounting.

15. Make three pieces of silver work of good design.

16. Make three pieces of brass work of good design.

17. Make and decorate a brass or copper bowl, vase, or plaque.

18. Make two hanging basket vases of willow or raffia suitable for porch decoration, fitted with holder of glass or tin.

19. Make a frame complete with glass and back, for Woodcraft charter.

20. Tell the symbolism of ten beadwork designs used by American Indians such as rain, star, etc.

21. Make set of three metal dies or hubs or punches for stamping in the designs in metal (such punches or hubs or dies as the Pueblo Indians use).

22. Make candlesticks and firebowl for the Four Fires.

ATHLETE, OR STRONGMAN

(Song-adis)

The Degree of Athlete is conferred on those who pass 13 of these tests.

EVENT	UNDER 14	UNDER 16	UNDER 18	OVER 18	OVER 45
Walk 1 mile in	14 min.	13	11	9	10
Run 100 yards	—	14⅖	13⅖	11⅗	—
Run 50 yards	8 sec.	7⅗	7⅕	—	—
Skate 100 yards	15 sec.	14	13	11⅖	12
Swim 100 yards	any time	any time	any time	any time	any time
Paddle 1 mile	13 min.	12	11	10	11
Row 1 mile	11 min.	10	9	8	8
Running broad jump	8 ft.	9½	11	13	—
Running high jump	3 ft.	3⅓	3⅔	4⅙	—
Standing broad jump	6 ft.	6½	7	7½	8
Chin the bar	4 times	6	8	9	10
Push up from floor (no swing)	16 times	18	20	25	25
Rope climb (hands only)	12 ft.	13	14	15	15
Shot put	—	—	*26 ft.	†26	†30
Potato race 8 p's, 2 yds. apart, 5 yd. finish	43 sec.	41	39	37	—
Throwing regulation baseball	120 ft.	150	180	210	180
Batting baseball	60 yds.	65	70	80	80
Throwing lacrosse ball	70 yds.	85	100	115	100
Kicking football (place kick)	30 yds.	35	40	45	45

—means "not open."

* 8 lbs.

†12 lbs.

Backwoods Handicraftsman

(*Shaginapi*)

The Degree of Backwoods Handicraftsman may be conferred on any one who takes seven of these tests:

1. Make a birch or hickory broom.
2. Make a hunter's lamp.
3. Make an Indian or willow bed.
4. Make a four-poster to carry the willow bed.
5. Make a wooden kneading trough.
6. Make a noggin or wooden drinking cup of a tree burl.
7. Make a basket to hold at least a quart using raffia, spruce roots, rattan, or other strong material.
8. Make a box or vessel of birch bark tight enough to hold any ordinary grain.
9. Build a cabin.
10. Temper a knife.
11. Build a boat to carry one or more.
12. Make a Navajo loom.
13. Build a stone or brick bake oven.
14. Tan a pelt with the fur on.
15. Remove the hair from a calfskin without using a knife or injuring the skin.
16. Repair a boot with a patch.
17. Make a pair of moccasins.
18. Use an axe correctly.
19. Weave a rug or mat.

Bird Sharp

(*Bineshi*)

The Degree of Bird Sharp may be conferred on any one who takes eight of these tests:

1. Identify fifty native birds in a collection. (When the sexes differ greatly, they count each as a bird.)
2. Identify twenty-five native birds in the field.
3. Identify twenty-five native birds by note.
4. Make a local list of twenty-five birds with remarks on arrival, departure, abundance, etc.
5. Mention twenty birds of great value to agriculture and say why.

6. Name ten birds that work in the orchard destroying the bark lice and other such pests.

7. Keep a journal with daily notes on the nesting of a pair of birds from setting to fledging.

8. Make and set up two successful bird boxes.

9. Make and set up a successful lunch counter.

10. Make and set up a successful bird bath.

11. Tell what bird sanctuaries are, and why they are being established.

12. Write an essay of at least 500 words giving the life history of some native bird that you know well, telling when it arrives in the spring, how the male differs from the female, what its song is like, what are its haunts, where it nests, what its nest and eggs are like, when the young are raised and fly, what they are like at first plumage, how many broods are raised each season, what are its foods, its enemies, and its peculiarities.

Bug Man

(*Tapopuska*)

The Degree of Bug Man may be conferred upon any one who accomplishes 14 of these tests.

1. What is an insect? Is a spider an insect? Give a reason for your answer. How about a centipede? Milliped? "Sow-bug"? In each case, why? What is meant by an "order"?

2. Tell how you would distinguish any eight of the following from each other and from other insects: Butterfly, moth, beetle, wasp, bee, ant, grasshopper, cricket, roach, dragon-fly, a true fly, a true bug; a spider.

3. Collect, preserve, mount and correctly identify at least five species in each of at least three orders of insects. Label each specimen as to locality and date of capture. Describe in a general way the sort of places in which each of these species lives.

4. Describe the life history of an insect which is *injurious* to man or to man's property. Of an insect which is *beneficial* to man. Of one that is not decidedly either injurious or beneficial.

5. Describe at least five different things insects make, telling what kind of insect made each, but not counting cocoons.

(Examples: nests of paper, mud, leaves or silk; traps to catch prey; burrows in wood, leaves or earth that have some character distinguishing them from other burrows; galls; special protection of eggs, etc.) Present one specimen of each.

6. Insects grow and many, but not all, change greatly just before they become adult. Rear at least three different species of insect from the stage preceding the adult one to that stage. Preserve the cast nymphal skin or pupal shell as well as the adult.

7. Make a Lubbock ant's nest, install a colony of ants and record observations for one month.

8. Take full charge of a swarm of bees for one season.

9. Identify 8 species of bees, wasps or ants and describe the distinguishing characteristics of each.

10. Make good recognizable photos of five species of spider nests.

11. Record the steps in the spinning of a spider's web, giving date, name of spider, location of web and description of the various steps.

12. Identify eight species of spiders.

13. Identify 10 species of butterflies.

14. Identify 20 species of moths.

15. Collect a moth cocoon and take entire charge of the product of this cocoon through its entire life history until another cocoon is produced.

16. As above for a butterfly.

17. Make three serviceable six foot leaders for a fish line from gut raised by self.

18. Make good recognizable photos of 10 species of moths or butterflies.

19. Make a series of good recognizable photos showing the life history of a butterfly or moth; including its emergence from the cocoon.

20. Identify 3 species of mosquitoes; describe the life history of one, and tell how best to rid a place of mosquitoes.

21. Identify 20 species of insects not included in the above.

Camper

(*Gabeshiked*)

The Degree of Camper may be conferred on any one who takes ten of these tests (the first four being required):

1. Choose a one night camp site, preparing for rain and protection from insects. See Totem Board.
2. Describe in detail how to build a latrine (toilet).
3. Describe in detail how to dispose of the camp garbage and refuse.
4. Light fifteen fires in succession with fifteen matches, at different places, one at least, on a wet day.
5. Put up a two-man tent alone, ten times, for actual service, ready for storms.
6. Make a fire with rubbing-sticks of own preparation.
7. Boil water in fifteen minutes with one match, one log, one axe; one quart of water in a two-quart pail. All work to be done alone.
8. Make a rod bed, or a mat, of wild material.
9. Make a rainproof roof of wildwood materials.
10. Cook twenty-one digestible meals with ordinary camp outfit, for at least three persons, or equivalent.
11. Describe in detail how to make a raft.
12. Sleep out 100 nights (no roof but canvas, not necessarily consecutive nights), or 30 consecutive nights.
13. Travel 500 miles, all told, in canoe, on foot, or in saddle, sleeping out.
14. Have charge of a camp of five or more for seven suns (one week) and keep all going in good shape.

Camp Cook

(*Chabakwed*)

The Degree of Camp Cook may be conferred on any one who takes six of these tests:

1. Make a good fireplace of wood, of stone, or earth.
2. Light fifteen fires with fifteen successive matches, one on a wet day.
3. Bake five batches of good bread in a Dutch oven.
4. Bake five batches of good bread in a frying pan before the open fire.
5. Cook twenty-one digestible meals over campfire for a party of two or more, or equivalent.
6. Boil a quart of water in a two-quart pail in ten minutes, without help.

7. Cook a meal consisting of baked bread, boiled fish, or fried or roast meat, vegetable, without any utensils or tools but a hatchet.

8. Train a class in camp cooking, showing and making them do it properly.

Camp Craftsman

(*Eokid*)

The Degree of Camp Craftsman may be conferred on any one who takes fifteen out of these tests:

1. Demonstrate a knowledge of tanning and curing.
2. Sole and heel a pair of boots, or shoes, sewed or nailed, and generally repair footwear with ordinary camp outfit.
3. Keep in repair a saddle, traces, stirrup leathers, etc., and know the various parts of harness.
4. Patch a garment.
5. Make a lace or a button of a leather patch.
6. Make set of six camp chairs and a camp table.
7. Make a waterproof vessel of birch bark.
8. Repair a broken boat or canoe.
9. Repair a tent cover so it will not leak.
10. Make an axe helve or a hoe handle.
11. Repair a leaky kettle or pot.
12. Solder a tin.
13. Make a basket of wildwood materials.
14. Make an Indian bed of not less than 60 rods.
15. Make a grass mat not less than 2 x 5.
16. Fell a six-inch tree in sixty seconds and drive with it a given stake.
17. Cut down a six-inch tree, and chop and split it into stove wood, using axe only.
18. Cut and flat with two true surfaces a log like a railway tie, eight feet long, nine-inch face, and six inches thick, using axe only.
19. Distinguish between rip saw, crosscut, keyhole saw, two-handed crosscut, bucksaw and show how they are used.
20. Show the right and wrong way of putting nails into two boards, one of which is to be fastened across the other.
21. Make a boat or a birch canoe.
22. Build a log cabin.

Camp Doctor

(*Mashkiki*)

The Degree of Camp Doctor may be conferred on any one who takes eighteen out of these tests (the first four being required):

1. Demonstrate the Schaefer method of resuscitation.
2. Pass first-aid tests of Red Cross Society, or other standard.
3. Know how to treat for bad sunburn.
4. Know poison ivy, sumac, oak, etc., and the proper treatment for cases of poisoning by these.
5. Carry a person down a ladder.
6. Bandage head and ankle.
7. Tell the best remedy for skunk smell and bee stings.
8. Describe treatment for body lice and fleas.
9. Describe the treatment for hives and ringworm.
10. Show treatment for bite by mad dog or poisonous snake.
11. Demonstrate rescue of person in contact with electric wire.
12. Apply tourniquet to a principal artery.
13. Describe in detail the proper care of the teeth.
14. What medical outfit would you take for a month's sojourn in the wilderness? Why was each article chosen?
15. Be able to tell the difference in effect of a cold and hot bath.
16. Tell how to care for the feet on a march.
17. Describe the effect of walking as an exercise.
18. Know how to treat sprains.
19. Tell the effect of over-exercise.
20. State the chief causes of tuberculosis, typhoid and malaria.
21. Tell what should be done to a house which has been occupied by a person who has had a contagious disease.
22. Describe the best methods of disposing of garbage, and the evil effect of flies.
23. Tell how a camp should protect its foods: milk, meat, and exposed foods.
24. Tell how to plan the sanitary care of a camp.

25. Know what wood herbs, etc., or camp staples will produce sweat, purge, vomit, or warmth; what will make a quick poultice, which will check diarrhœa.

26. Make, use, and teach others to use, the Indian Sweat Lodge.

Canoeman

(*Chemaunigan*)

The Degree of Canoeman may be conferred on any one who takes fifteen of these tests:

1. Tie rapidly six different useful knots.
2. Splice ropes.
3. Find, collect, prepare, and use "watap," that is spruce roots, for canoe binding, etc.
4. Find, collect, prepare, and use gum for canoe gumming.
5. Use a palm and needle.
6. Fling a rope coil.
7. Row, pole, scull, and steer a boat; also bring a canoe or boat properly alongside and make fast.
8. Build a boat or canoe to carry at least one person.
9. Make a serviceable paddle and paint it Indian fashion.
10. Repair hole in the side, below water line, of a boat or canoe.
11. Know the laws of beaching, caching, or portaging a canoe, also how to sit in it and how to change seats with another when afloat.
12. Swim 100 yards.
13. Swim fifty feet with shoes, pants or skirt, and shirt on.
14. Sail any two-man craft for 200 miles in a season—the other man not a professional sailor.
15. Paddle (single) a canoe on dead water one mile in fourteen minutes.
16. Spill a canoe, get in again and bale it out without help.
17. Take canoe camper's honor, that is, make a continuous canoe or rowboat trip of at least 100 miles, sleeping out every night.
18. Be able to tell direction by the stars and sun.
19. Steer by compass.
20. Teach a class to handle a canoe.

Colonial Housekeeper

(*Gaiat*)

The Degree of Colonial Housekeeper may be conferred on any one who takes twelve of these tests:

1. Gather bayberries and make four candles dipped or moulded, each six inches long, for the Four Fires.

2. Leach the ashes and make a pint of soft soap.

3. Dye evenly four pieces of material not less than half a yard each of four different colors, or four skeins of yarn. Dyes may be bought.

4. Dye twelve squares of felt or white flannel each about 4 x 4 inches, each a different color with stuff found in the woods, such as butternut bark, golden oak, sassafras, goldenrod tops, pokeberries, etc. (Tea and coffee allowed.)

5. Make a lavender box, i. e., grow, gather, dry and use the lavender in a clothes chest. Same for lemon verbena (tripolium.)

6. Gather and make marigold salve (calendula) or prunella salve (self-heal) or witchhazel salve.

7. Gather sassafras leaves and make a gumbo soup.

8. Gather the sap and make of it a pound of sugar, either from maple or other sugar trees.

9. Brew sage tea, mullein tea, boneset tea, catnip tea, camomile tea, and ginger tea.

10. Dry, corn, spice, salt, or otherwise preserve three kinds of meat or fish for household larder.

11. Dry five quarts of fruit, or vegetables for winter use.

12. Knit or crochet any usable article of wearing apparel.

13. Spin enough cotton, flax, wool, or hemp to make five yards of stuff or half a dozen pair of socks.

14. Weave 2½ yards of cloth or rag carpet, rug or bedspread.

15. Cut, select, sew, ball, and arrange for the making of a good rag carpet 2½ yards long.

16. Make single-handed a rag rug, braided or hooked.

17. Make appliqué quilt or patchwork quilt.

18. Make a grandmother's sampler.

Dancer

(*Namid*)

The Degree of Dancer may be conferred on any one who takes eight of these tests:

1. Dance four folk dances such as beansetter, ox-dance, Morris dance, Maypole, ribbon dance, etc.
2. Dance a good cakewalk.
3. Dance two gypsy dances. (Spanish or Hungarian gypsy.)
4. Dance one standard Scottish dance, such as Highland fling, Scottish reel, sword dance, and fire dance, or dance two Irish dances, as jig, reel, hornpipe, double shuffle, clog, etc.
5. Dance two standard Indian dances—as Lone Scout, Solo Snake, Storm Cloud, Caribou dance, Zuni spring dance, etc.
6. Dance two Greek dances.
7. Dance the minuet.
8. Dance the quadrille, lancers, and Virginia reel.
9. Lead in five children's dances such as Sally Waters, chair dance, Mulberry Bush, A Hunting We Will Go.
10. Teach a class at least four dances representing four different departments as above.
11. Dance two Japanese dances. (One posture dance and one spear dance.)
12. Dance the dance of the Golden Sari, and a fire dance.

Note: Music of folk dances and Indian dances can be had on Victor and Columbia records, Education Department list.

Entertainer

(*Tchessakid*)

The Degree of Entertainer may be conferred on any one who takes thirteen of these tests:

1. Tell entertainingly a good story, of not less than ten minutes, to a group of young people five different times.
2. Tell standard Indian stories to a group of not less than five one hour a week for two months, or equivalent.
3. Recite well five poems, orations, or stories which are in keeping with the occasions and entertaining.
4. Sing alone from memory five American folk songs.
5. Ditto for five English folk songs.

6. Ditto for five Scotch folk songs.
7. Ditto for five Irish folk songs.
8. Ditto for five folk songs of any other nation.
9. Act as accompanist at least six times for some public event in school, church, etc.
10. Take part on three or more occasions as a member of a quartet, glee club, chorus, or as a member of an orchestra, band, etc.
11. Play an instrumental solo at three public occasions.
12. Give a party, arranging program of entertainment and refreshments, the latter not to cost more than fifteen cents per person, and for at least six people.
13. Entertain younger people on five different occasions —introducing song, story, dance, or manual training.
14. Write a play which is used for public performance.
15. Do ten recognizable bird or animal imitations.
16. Do successfully six moving pictures of given subjects such as Sleeping Beauty, Red Riding Hood, Old Mother Hubbard, etc. (acting the story or rhyme out in pantomime).
17. Put on shadow charades in camp or shadow moving pictures with sheet and lantern.
18. Take part in folk dancing at three public events.

Farmer

(*Kitigewin*)

The Degree of Farmer may be conferred on any one who takes ten of these tests:

1. Explain the nature of soil, its texture and need of water and air.
2. State how to decide what fertilizer is needed in given soil.
3. Plow, harrow and seed down two acres of land.
4. Weed and harvest two acres of land.
5. Cut, make and harvest five acres of hay.
6. Make a seed tester and test the germination of three kinds of crop seeds, one hundred seeds of each kind. "Rag-baby" tester for corn.
7. Identify ten common weeds and tell how to get rid of them.
8. Identify ten bad bugs and tell what they do and how to get rid of them.

9. Have inoculated seeds of clovers, cowpeas, etc., and grown demonstration strips and compare the increase of nodules on roots of inoculated plants.

10. Do all the work in a successful flower, or fruit and vegetable garden, not less than twenty feet by twenty feet.

11. Raise half a dozen each of five of the following plants: cucumber, tomato, egg plant, pumpkin, melon, pepper, cabbage, cauliflower, celery.

12. Have four window boxes, at least 24 x 8 inches, or equivalent, of successful growing plants, planted and cared for by self, for four months.

13. Make a garden calendar, stating the order of bloom, so that from April to September there is a flower for each week.

14. Have a successful perennial vegetable garden—rhubarb, asparagus, mint, horseradish, etc.

15. Send a bouquet a week to hospital or "shut-in" or Flower Guild, from own flower-beds for six months.

16. Keep a garden in good shape, clean and trim all summer.

Fisherman

(*Gagoiked*)

The Degree of Fisherman may be conferred on any one who takes nine of these tests:

1. Catch and name ten different species of fish: salmon or trout to be taken with flies; bass, pickerel, or pike to be caught with rod or reel, muskallonge to be caught by trolling.

2. Make a bait rod of three joints, straight and sound, fourteen ounces or less in weight, ten feet or less in length, to stand a strain of one and a half pounds at the tip, 13 pounds at the grip; or else make a jointed fly-rod 8 to 10 feet long, 4 to 8 ounces in weight, capable of casting a fly sixty feet.

3. Name and describe twenty-five different species of fish found in North American waters, and give a list of at least five of the fishes ascertained to inhabit a given body of water.

4. Give the history of the young of any species of wild fish from the time of hatching until the adult stage is reached.

5. Make a net and catch a fish in it.
6. Make a turtle trap and catch a turtle in it.
7. Make a six-foot leader of clean gut, with smooth knots to stand a strain of five pounds.
8. Take with the fly, unassisted, a three-pound trout, landlocked salmon, or bass, or a twelve-pound salmon, on a rod not more than eight ounces in weight.
9. Take on a rod, without assistance in hooking, playing, or landing a trout, black bass, pike (muskallonge), grayling, salmon, bluefish, weakfish, striped bass, kingfish, sheepshead, or other game fish, whose weight in pounds equals or exceeds half that of the rod in ounces.
10. Cast a fly with a rod of five ounces, or less, not over ten feet long, sixty-five feet. Or, with one quarter of an ounce dummy frog, five-foot rod, outdoors overhead casting, tournament style, send it eighty feet if under eighteen, one hundred and ten if over.
11. Swim a hundred yards.
12. Paddle (single) a canoe one mile in fourteen minutes.
13. Row without help one mile in ten minutes.

Food Craft

(*Midjim*)

The Degree of Foodcraft may be conferred on any one who takes nine of these tests:

1. Know a balanced diet for daily living that will meet requirements of the body.
2. Know the value of cereals and the proper preparation of corn, wheat, rice, barley, and rye for bread and porridges, etc.
3. Cook in camp for a week for four people.
4. Understand the terms proteids, carbohydrates, and tell which foods contain them, in what proportion, and whether available for the human body and whether easily assimilated.
5. Know a balanced vegetarian diet and prepare menus of same for a week at camp.
6. Know the local wild plants available for salads and prepare a salad of same.
7. Dry sweet green corn for camp use, either in sun or in oven. Other vegetable may be substituted, if dried in same way.

8. Dry any fruits for camp use—apples, peaches, cherries, etc.
9. Know 25 edible mushrooms.
10. Know how to prepare "cottage cheese."
11. Bake five batches of good bread, one to be in reflector baker; one to be in frying pan.
12. Train a class in camp cooking, showing and making them do it properly.
13. Tell how a camp should protect its foods, milk, meat, and exposed foods.

Forester

(*Mitigwakid*)

The Degree of Forester may be conferred on any one who takes eighteen of these tests:

1. Identify twenty-five kinds of trees when in leaf, or fifteen kinds of deciduous (broad leaf) trees in winter, and tell some of the uses of each.
2. Identify twelve kinds of shrubs.
3. Collect and identify samples of 20 kinds of wood and be able to tell some of their uses and peculiar properties.
4. Determine the height, and estimate the amount of timber, approximately, in five trees of different sizes.
5. State the laws for transplanting, grafting, spraying, and protecting a tree.
6. Make a collection of smoke or blue prints of sixty species of wild flowers, ferns, or grasses dried and mounted in a book and correctly named.
7. Recognize in the forest all important commercial trees in one's neighborhood.
8. Distinguish the lumber from each and tell for what purpose each is best suited.
9. Recognize the difference in the forest between good and bad logging, giving reasons why one is good and another bad.
10. Tell whether a tree is dying from injury by fire, by insects, by disease, or by a combination of these causes.
11. Know what tools to use in lumbering.
12. Know how to fight fires in hilly or in flat country.
13. Know the effect upon stream-flow of the destruction of forests at head waters.

14. Know what are the four great uses of water in streams.
15. Know what causes the pollution of streams, and how it can best be stopped.
16. Know how, in general, water-power is developed.
17. Tell, for a given piece of farm land, whether it is best suited for use as a farm or forest, and why.
18. Point out examples of erosion, and tell how to stop it.
19. Estimate closely how much timber and how much cord-wood is in a given acre of woods.
20. Name six trees that will float when green, and six that will not.
21. Know something of the relation of birds and quadrupeds to forest trees.
22. Fell a six-inch tree in sixty seconds, driving with it a given stake.
23. Make 100 trees grow where none grew heretofore.
24. Camp in the woods for thirty nights.
25. Perform the Tree Planting Ceremony.
26. Perform the Flower Planting Ceremony.

Friend of the Little Brothers

(*Watutka*)

The degree of Friend of Little Brothers may be conferred upon any one who accomplishes 13 of these tests.

1. Find in the field and identify five species of snakes.
2. Identify 15 species of snakes in a zoo or museum and tell which are poisonous.
3. Join an organization for the protection of snakes and help educate others as to the economic value of non-poisonous snakes.
4. Find and identify 10 species of turtles.
5. Find and identify 8 species of lizards or salamanders.
6. Make a careful record from observation of the development of an amphibian from the egg to the adult stage.
7. Observe and record the habits of some adult amphibian and tell of its economic value.
8. Identify five species of frogs.
9. Identify five species of toads (may be in museum).
10. Make good recognizable photos of any five of the following found in the field: Turtle, snake, lizard, salamander, frog, toad, fish, crab.

11. Identify 20 species of fish either alive or in the market.
12. Catch 8 species of fish and give an account of how and where each was caught.
13. Make a fish pond, and in it raise at least two species of fish for two seasons.
14. Make a spawning bed for fish and have it used by them.
15. Find and identify 20 species of salt water shells.
16. Identify four species of crabs found alive.
17. Identify 8 other species of crustaceans, and describe the habits and food value of two of them.
18. Identify 10 other species of water animals, observed alive, not included in above.
19. Make and maintain successfully for three months a fresh water aquarium, containing at least three forms of animal life.
20. As above for a salt water aquarium.

Friend of Wild Life

(*Ganamenima*)

The Degree of Friend of Wild Life may be conferred on any one who takes eleven of these tests:

1. Name and distinguish the three most important lumber trees of your state.
2. Name three trees that have neither lumber nor firewood value but are useful as shade trees, bird food, or bank binders.
3. Know the twenty-five principal song birds of your state.
4. Know the twelve principal game birds of your state.
5. Know the twelve principal four-foots of your state.
6. Mention three animals that serve no commercial purpose but which ought to be preserved because they are harmless and give pleasure to all who see them.
7. Be a member of the Audubon Society, or Agassiz Association.
8. Be a member of the local bird club.
9. Support such local societies as aim to preserve or re-introduce wild birds or desirable plants.
10. Make and put up ten bird boxes at least one of which must be nested in.

11. Make and run a bird's lunch counter all winter, feeding at least four kinds of birds not counting the English sparrow.

12. Make and run a bird bath successfully.

13. Write a 500-word essay on the value of birds to crops (See Bulletin of Department of Agriculture).

14. Write a 500-word essay on value of forests to insure water supply (See Forestry Bulletins).

15. Mention the four chief natural resources of your state.

16. Mention and give figures on the four chief natural resources of the United States.

17. Describe the Sanctuary Scheme of which the Yellowstone Park was the first great example, and tell how it has succeeded, and how far it has been copied.

Gleeman, or Camp Conjurer

(Nagamed)

The Degree of Gleeman may be conferred on any one who takes eight of these tests:

1. Open and lead the Council.
2. Light the Sacred Fire with rubbing-sticks.
3. Know the Indoor and Outdoor Council Ceremony.
4. Know the ceremony of giving names.
5. Sing ten Woodcraft songs, alone or as a leader.
6. Dance five standard Indian or other folk dances.
7. Tell five stories of not less than five minutes each.
8. Know the art of "making medicine," which is the making of goodfellowship by seeking out talent, selecting and leading it and stopping without offending those who are not helpful.
9. Know how to conduct initiations and have the wisdom to stop them in decent season.
10. Take the leading part (medicine man) in the Peace Pipe Ceremony.
11. Camp out thirty nights.
12. Teach some one else to run the Council.
13. Teach a dance to a sufficient number to give it.

Herald, or Crier

(*Bibaged*)

The Degree of Herald may be conferred on any one who takes eight of these tests:

1. Walk one mile in twelve minutes.
2. Walk thirty miles in twelve hours.
3. Run 100 yards in fourteen seconds.
4. Run one mile in five and one-third minutes.
5. Swim 100 yards.
6. Sleep out thirty nights.
7. Send and receive a message in one of the following systems of signaling: Semaphore, Morse, or Myer, not fewer than twenty-four letters per minute.
8. Make correct smoke signals meaning "Camp is here," "I am Lost," "All well," "All come to Council."
9. Talk Sign Talk, knowing at least 200 signs.
10. Know twenty-five signs and blazes of the Indian code.
11. Read and translate into one's own language a page or conversation from some other language.
12. Conduct a Council.

Horseman (Cowboy)

(*Bebamomigod*)

This degree is dedicated to the memory of Wahdaga (Wade Dudley of Wabanaki School, Greenwich, Conn.), who, under the careful guidance of his mother and in spite of physical handicaps, attained high excellence in the Horseman (Cowboy) Degree and found in it a world of happiness that never failed him.

The Degree of Horseman may be conferred on any one who takes ten of these tests:

1. Show that you are at home in a saddle and can ride at a walk, trot, and gallop.
2. Know how to saddle and bridle a horse correctly.
3. Catch six horses in corral or on range with twelve throws of the lasso.

4. Show how to water and feed and to what amount, and how to groom a horse properly.
5. Show how to harness a horse correctly in single or double harness and to drive.
6. Pack 100 lbs. of stuff with a diamond hitch, to stay during four hours of travel.
7. Have a knowledge of the power of endurance of horses at work and know the local regulations concerning driving.
8. Identify unsoundness and blemishes.
9. Know the evils of bearing or check reins and of ill-fitting harness or saddlery.
10. Know two common causes of, and proper remedies for lameness, and know to whom cases of cruelty and abuse should be referred.
11. Be able to judge as to the weight, height, and age of horses.
12. Know three breeds and their general characteristics.
13. Be able to treat a horse for colic.
14. Describe symptoms and give treatment of horses for the following: wounds, fractures and sprains, exhaustion, choking, lameness.
15. Understand horseshoeing.
16. Clear a four-foot hurdle and an eight-foot water jump.
17. Pick up hat from the ground going at full gallop on a horse not less than thirteen hands high.

Hunter

(Gaossed)

The Degree of Hunter may be conferred on any one who takes fourteen of these tests:

1. Walk one mile in twelve minutes.
2. Walk thirty miles in twelve hours.
3. Run 100 yards in fourteen seconds.
4. Run one mile in five and one-third minutes.
5. Swim 100 yards.
6. Spot the rabbit (see Games) three times out of five at thirty yards.
7. See and map out six Pleiades.

8. See the Pappoose on the Squaw's back (spectacles allowed if habitually worn). (See "Stars as Test of Eyesight.")

9. Get a good photograph of a big game animal wild in its native surroundings.

10. Know and name correctly twenty-five native wild quadrupeds.

11. Know and name correctly fifty wild birds in the field and their nests.

12. Know and clearly discriminate the tracks of twenty-five of our common wild quadrupeds.

13. Trail an animal or else iron track prints for half a mile without aid of snow.

14. Win honors with rifle. That is, be a marksman according to the rules of the National Rifle Association.

15. With bow make a total score of 300 points at forty yards, standard target.

16. Catch alive and uninjured with own make of trap one wild quadruped and one wild bird.

17. Know the Pole Star and fifteen star groups.

18. Teach any one of these but the first nine to some other person.

Hunter in Town

(*Odena-Gaossed*)

The Degree of Hunter in Town may be conferred on any one who takes eight of these tests:

1. Find and sketch twenty-five blazes in town and say where you found them. A blaze is a mark that conveys information without using words or letters.

2. Find twenty-five totems in town. A totem is the emblem of a man, group of men, company, or idea. It is not formed of words or letters and letters are not an essential part, even if they are associated. Some trademarks are of this class.

3. Indicate the distinguishing marks of policemen, park policemen, traffic squad, strong arm squad, etc.

4. Rid a house of flies for one month.

5. Rid a house of rats for one month.

6. Rid a house of mice for one month.

7. Rid the house of cockroaches for one month.

8. Rid the premises of mosquito breeding pools for a season.

9. Draw life-size, recognizable tracks of a man, woman, child, dog, cat, and mouse.

10. Draw life-size, recognizable tracks of a rat, rabbit, gray squirrel, sparrow, crow, chicken. All of these can be secured in and about the city, especially in the large parks, and are easiest when the snow is on the ground, but possible in mud or with even wet tracks on dry pavements.

11. Make and set up at some suitable place and operate for at least a week a flytrap. (On the screen-cone principle.)

12. Know gypsy moth and report finding of any to state entomologist, also browntail moth.

13. When muzzling laws are passed report all infractions to police.

14. Provide satisfactory records of the tracks of three animals, according to the following method: cover a stiff sheet of paper with black ink and so place it that the animal runs over it and on to a fresh sheet of paper, which receives the tracks.

15. Know 100 signs of the Sign Language, including 10 traffic signals.

Indian Craftsman

(*Inanokiwin*)

The Degree of Indian Craftsman may be conferred on any one who takes fifteen of these tests:

1. Follow a track one mile without help. Snow or tracking irons allowed.

2. Know 100 signs of the sign language.

3. Know six standard blazes.

4. Know the four stone signs. Demonstrate in Council.

5. Know the four twig signs. Demonstrate in Council.

6. Know the four grass signs. Demonstrate in Council.

7. Know two standard tests of eyesight used by Indians.

8. Make a bead band at least eight inches long and twelve beads wide.

9. Make a piece of porcupine quillwork at least one inch by eight.

10. Make and paint an Indian four-post bed.

11. Carve and paint a totem pole, Chief's seat, or Tally Keeper's table.

12. Make and decorate a bench for Council Ring.
13. Make and decorate an Indian teepee. Full size.
14. Make and use a willow bed.
15. Make a pair of leggings decorated in good design.
16. Make a shield and spear for the Lone Hunter dance.
17. Make an Indian drum with decorations and stick complete.
18. Make a Navajo loom and weave a rug on it (grass woof with thirty warp strings is allowed).
19. Be responsible for locating, planning, and completing a Council Ring.
20. Make a dry painting for "Four Fires." Demonstrate at Council.
21. Construct a burlap deer according to "Book of Woodcraft."
22. Construct a burlap bear according to "Book of Woodcraft."

Indian Lore

(*Anishanabe*)

The Degree of Indian Lore may be conferred on any one who takes twenty of these tests:

1. Outline the religion of the high-class Indian. (See "Book of Woodcraft," page 21.)
2. State what were the Indian's special virtues.
3. State what were his special vices.
4. State what was the great mistake of his creed.
5. State why William Penn was peculiar in having no trouble with Indians.
6. Be the possessor of three genuine articles of old style Indian make, such as basket, beadwork, quillwork, silver work, pottery, stone work, blankets, war club, bow, quiver, arrows, peace pipe, etc.; and know to what tribe the makers belong, what materials were used in their construction, and how they were made. These may be got from the Mohonk Lodge Colony, Oklahoma, and so help the Indians.
7. Know the original hunting grounds, and give an outline of the history and present condition of one tribe of Indians.
8. Know the uses and meaning of the design or symbols on some Indian article, or something of the ceremony in which it is used.

9. Sing six genuine Indian songs in Council.
10. Tell six Indian legends at the Council.
11. Draw ten genuine Indian symbols and explain them.
12. Name the Indian tribes that originally inhabited your state. Give their present numbers and location, also their economic and religious condition.
13. Give brief sketch of the lives, aims, and achievements of four great or well-known Indian chiefs.
14. Give brief sketch of the lives, aims, and achievements of four great or well-known Indian women.
15. Be able to distinguish from each other four types of baskets characteristic of four different tribes.
16. Distinguish in general the pottery of four different tribes.
17. Be able to indicate and discuss the genuine Navajo blankets.
18. Be able to indicate and discuss the genuine Balleta.
19. Be able to indicate and discuss the genuine Chimayo.
20. Be able to indicate and discuss the genuine Hopi.
21. Be able to indicate and discuss the genuine Chilkat.
22. Be able to indicate and discuss the Germantown.
23. Be able to indicate and discuss the genuine Serape.
24. Tell approximately the age of a blanket.
25. Distinguish the three or four general styles of beadwork and the regions of which they were characteristic.
26. Visit in person and stay at least a week with some tribe that is not scattered.
27. Name the Six Nations, the Plains Indians, the different tribes of Pueblo Indians, the coast (California) tribes, the Alaskan Tribes, or the Central American Tribes.
28. Know fifty signs of the sign language.

Little Planter

(Watokpana)

The Degree of Little Planter may be conferred upon any one who accomplishes nine of these tests:

1. Demonstrate by specimens the characteristic differences between mosses, lichens and liverworts.
2. Identify ten species of mosses.
3. Identify five species of lichens or liverworts.

4. Describe in detail the life history of a slime mold, and identify five species.
5. Identify five species of poisonous mushrooms, and tell how they may be recognized.
6. Identify 15 species of edible mushrooms.
7. Identify ten species of non-edible, non-poisonous mushrooms.
8. Make spore prints of ten species of mushrooms or ferns.
9. Identify fifteen species of ferns.
10. Make blue or ink prints of ten species of ferns.
11. Describe in detail the life history of some fern, and discover and identify a protrallium.
12. Find and identify four species of horse-tails.
13. Find and identify four species of club-mosses.
14. Identify five species of sea weeds.
15. Make a mushroom bed and raise at least a half bushel of edible mushrooms.

Moccasin Runner

(*Kee-mo-sah'bee*)

The Degree of Moccasin Runner may be conferred on any one who takes nine of these tests:

1. Walk one mile in eleven minutes.
2. Walk thirty miles in twelve hours.
3. Run 100 yards in fourteen seconds.
4. Run fifty yards in seven and four-fifth seconds.
5. Run one mile in five and one-third minutes.
6. Swim 100 yards.
7. Paddle a canoe one mile in twelve minutes in dead water.
8. Know the Semaphore or Wigwag or Myer code and take as well as receive a message at the rate of at least twenty-four letters a minute.
9. Know 200 signs of the Sign Language.
10. Know twenty-five secret signs and blazes of the Indian code.
11. Have slept out thirty nights.
12. Know and clearly discriminate the tracks of twenty-five of our common wild quadrupeds; also trail for a mile without snow, till near enough to photograph or bag one.

13. Must have carried a letter three times over a mile of enemy's country with at least twenty hostiles out against him, of his own class.

Mountaineer

(*Wadjiwed*)

The Degree of Mountaineer may be conferred on any one who takes seven of these tests:

1. Take two honors at least in the list of mountain climbing.
2. Camp out at least thirty nights in the mountains.
3. Know, name, and describe the fourteen great divisions of the earth's crust (according to some standard authority).
4. Know and name twenty-five different kinds of rock.
5. Define watershed, delta, drift, fault, glacier, terrace, stratum, dip.
6. Know at least twenty mammals that live in the mountains.
7. Know at least fifty mountain birds.
8. Know at least twenty-five mountain trees.
9. Make a journey on foot through the mountains of at least 100 miles, sleeping out every night.
10. Swim 100 yards.

Planter

(*Wozuti*)

The Degree of Planter may be conferred upon any one who accomplishes 12 of these tests:

1. Find in the field and identify 40 species of wild flowers.
2. Collect and identify 20 species of weeds.
3. Collect, press, mount and identify eight species of grass.
4. Make five square yards of wild flowers grow where none grew before, including at least five species.
5. Plant successfully five trees.
6. Identify by leaf or fruit, 20 species of deciduous trees.
7. Identify 10 species of evergreen trees.
8. Identify by leaf or fruit, 20 species of shrubs.

9. Identify by bark or twigs in winter, 20 species of trees.
10. As above for 20 species of shrubs.
11. Make an exhibit of 10 species of trees, mounting in permanent form leaf, flower, fruit, bark and twigs to show method of branching.
12. As above for 10 species of shrubs.
(Shrub lists are not to include any species included in tree lists.)
13. Collect and identify fruits or seeds from 40 species of wild plants.
14. Identify specimens of wood from 15 species of trees.
15. Make blue prints or ink prints of the leaves from 30 species of trees or shrubs.
16. As above for 30 species of wild flowers.
17. Find and identify 20 species of wild plants with edible leaves or shoots.
18. Find and identify 20 species of plants with edible seeds, or fruits.
19. Plant at least 6 species of shrubs which will bear seeds or fruits for birds during the winter.
20. Perform the Tree Planting Ceremony.
21. Perform the Flower Planting Ceremony.

Potter

(*Nampeyo,* Famous Pueblo Indian Potter)

The Degree of Potter may be conferred on any one who takes ten of these tests:

1. Make bird's drinking fountain or basin, twelve or more inches across.
2. Make set of four bowls: decoration in Zuni style, Moqui style, Acoma and San Domingo styles.
3. Make jardinière at least ten inches across.
4. Make hanging vase to hold pint or more of water, Japanese design.
5. Make set of six plain cooking dishes of clay dug and prepared by self.
6. Make rectangular shallow dish for holding Japanese miniature garden 10 x 6 x 2 inches. Must be glazed to prevent leakage.
7. Make, dry, and bake eight little plain bowls all the same

or of various shapes, hard enough to hold water, and without flaw that would prevent their being of practical use.

8. Make with coil process, dry and bake, four pots of Zuni shape with Zuni decorations, each large enough to hold two quarts, and close enough to hold water, without flaw that would prevent its practical use.

9. Make a potter's wheel and turn out eight pieces of pottery on the same. (See "Chambers's Encyclopedia.")

10. Make a potter's kiln and demonstrate it. (See "Chambers's" or "American Encyclopedia.")

11. Paint a set of eight china dishes using native American designs.

12. Paint a set of eight china dishes using any standard design.

13. Describe and fully distinguish six great types of Old World pottery.

14. Describe and fully distinguish four types of native American pottery.

15. Tell how the ancient and prehistoric pottery of America may be distinguished from that made to-day.

16. Make a set of candlesticks and firebowl for Four Fires.

17. Describe the principal varieties of native clays and tell what colors they bake; describe the Zuni method of firing.

Scout

(*Mikan*)

The Degree of Scout may be conferred on any one who takes twelve of these tests:

1. Know two miles of bypaths in and around your local headquarters in the country.

2. Have a general knowledge of the district within a five-mile radius of local headquarters, so as to be able to guide people at any time, by day or night.

3. Know the general direction and population of the five principal neighboring towns and be able to give strangers correct directions how to reach them.

4. Know the country in two-mile radius, or in a town know in a half-mile radius what livery stables, garages, and blacksmiths there are.

5. Know the location of the nearest meat markets, bakeries, groceries, and drug stores.

6. Know where the nearest police station, hospital, doctor, fire alarm, fire hydrant, telegraph, and telephone offices, and railroad stations are.

7. Know something of the history of the place, its principal public buildings, such as town or city hall, post-office, schools, and churches.

8. As much as possible of the above information should be entered on a large scale map.

9. Fell a six-inch tree or pole in a prescribed direction so as to fall between two stakes two feet apart, within sixty seconds.

10. Tie six kinds of knots quickly.

11. Lash spars properly together for scaffolding.

12. Build a bridge or derrick.

13. Make a camp kitchen.

14. Build a shack or cabin of one kind or another suitable for three occupants.

15. Walk one mile in eleven minutes.

16. Run 100 yards in 14 seconds.

17. Run fifty yards in seven and four-fifth seconds.

18. Swim 100 yards.

Seamanship

(*Nabikwa-Ninini*)

The Degree of Seaman may be conferred on any one who takes eighteen of these tests (17 and 22 compulsory):

1. Tie ten different standard knots.

2. Make a finish knot at the end of a rope.

3. Make long and short splices and demonstrate covering an eye splice.

4. Use palm and needle.

5. Fling a rope coil.

6. Fling a life buoy.

7. Demonstrate that you can row and steer a boat.

8. Pole and scull a boat and demonstrate bringing it alongside safely, then make fast.

9. Box the compass.

10. Read a chart.

11. Show a knowledge of weather wisdom and tides.

12. Show how sun and stars are of service as guides.
13. Swim fifty yards with clothes on.
14. Sail a two-man boat for 100 miles without a professional sailor for companion, but yourself holding the tiller and directing its sail adjustment, etc. This need not be in one trip.
15. Demonstrate by description and sketch or actually demonstrate correct method of reefing a fore and aft sail including sequence of passing the tack lashing, earing and knotting reef points, and turning out the reef.
16. Describe the proper method of coming to anchor so as not to foul anchor; state proper amount of rope to be paid out in proportion to depth of water. Also show method of stopping anchor line down to flukes and ring to anchor on rocky bottom.
17. Know the rules of the road; proper action to be taken on approach of other vessel of any character.
18. Show that you have won first, second, or third place in a race of any of the recognized yacht clubs or associations, with yourself as skipper.
19. Make a model of a sloop or schooner yacht or other vessel fully rigged.
20. Tell the bells and watches kept on board ship.
21. Know usual flag signals for owner and crew, location of owner's and club signal and night pennant. Also proper method of displaying the yacht ensign when at anchor and under way.
22. Describe signal lights used at night on barges, sailing power and steam vessels according to United States Regulations. Also tell what lights are used by yachts showing fleet officers, meals, owner's absence, etc.
23. Name and describe ten different sailing rigs: ship, bark, barkentine, brig, brigantine, schooner, topsail schooner, sloop, yawl, ketch, knockabout, sharpie, buckeye, catboat, lateen rig.

Sharpshooter

(*Gadaakwed*)

The Degree of Sharpshooter may be conferred on any one who takes six of these tests:

1. Qualify as "marksman" with the rifle in accordance with the regulations of the National Rifle Association.

2. Make a bow and arrow which will shoot a distance of 100 feet with fair precision.

3. Make a regulation archery target—four feet across, with the nine-inch centre and four rings, each four and three-quarter inches wide.

4. Make a total score of 350 with sixty shots of bow and arrow in one or two meets, using standard four-foot target at forty yards or three-foot target at thirty yards.

5. Make a total score of 300 with seventy-two arrows, using standard four-foot target at a distance of fifty yards, or three-foot target at thirty-six yards.

6. Shoot so far and fast as to have four arrows in the air at once.

7. See and map out six Pleiades with naked eye.

8. See the Pappoose on the Squaw's back in the Dipper Handle.

9. Spot the rabbit three times at thirty yards.

Star Wiseman

(Gijiged)

The Degree of Star Wiseman may be conferred on any one who takes seven of these tests:

1. Have a general knowledge of the nature and movements of the stars.

2. Point out and name ten principal constellations.

3. Find the north by means of other stars than the Pole Star.

4. Tell the hour of the night by the stars and moon.

5. Know and name twenty of the chief stars.

6. Know, name, and can point out three of the planets.

7. Have a general knowledge of the positions and movements of the earth, sun, and moon.

8. Have a general knowledge of tides, eclipses, meteors, comets, sun-spots, and planets.

9. Take the latitude from the stars with homemade instruments, within one degree of error.

10. Make a sundial that works.

Swimmer

(Shingebis)

The Degree of Swimmer may be conferred on any one who takes twelve of these tests:

1. Perform running plain front dive from springboard, or racing dive in at least fair form, and swim in good form 150 yards using:
   a. Breast stroke for first 50 yards.
   b. Back stroke with inverted frog kick, spiral kick or combination frog-scissors kick for next 50 yards.
   c. Side stroke for last 50 yards.
2. Swim 50 yards using legs only, crawl kick debarred.
3. Swim 50 yards using arms only.
4. Tread water 3 minutes with both hands above water.
5. Swim 50 yards in camp costume and undress without support in at least 7 feet of water, then swim 50 yards more.
6. Break following holds of swimming instructor, or other well-qualified assistant:
   a. Wrist hold, single and double, each against one or both hands of opponent, by means of legs.
   b. Front neck hold.
   c. Back strangle hold.
   Each hold must be broken at least five times in correct form and against real opposition.
7. Perform surface dive in at least seven feet of water and bring up human subject, or equivalent, from bottom in side-stroke carry.
8. Unconscious or slightly resisting subject carry.
9. Tired swimmer or cramp carry: swimming 25 yards, subject lying on back with arms straight and hands on carrier's shoulders, and legs spread around carrier's hips, carrier using breast stroke.
10. Struggling subject carry, swimming 10 yards on back towing subject with double arm lock, using frog kick or combination frog-scissors kick or spiral kick, resorting to full arm lock each time until subject ceases struggle, subject struggling violently at least three times.
11. Demonstrate for three minutes in correct rhythm the Schaefer method of artificial respiration, and explain the process of resuscitation from time subject is removed from water until consciousness is restored.

12. Pass satisfactorily an oral examination on Schaefer method of artificial respiration and after-treatment of the apparently drowned, or on any other phase of life-saving.

13. Distance swim without time limit at least 440 yards, using at least one speed swimming stroke in good form for one-fourth distance.

14. Warding off with arms and legs when attacked
    a. From front.
    b. From rear, each 2 minutes.

15. Swim 100 yards.

16. Demonstrate safely crossing thin or rotten ice.

17. Teach three persons to swim.

Teacher

(*Kikinowina*)

The Degree of Teacher may be conferred on any one who takes seven of these tests:

1. Teach at least five stories of merit to younger member so that the child can in turn tell them.

2. Teach a class of children to sing, dance, or act for some patriotic, school, or charitable entertainment.

3. Teach a class of children in athletics for three months —dancing, swimming, riding, fencing, boxing, hiking, rowing or paddling.

4. Lead an outdoor nature class of four or more children for three months.

5. Teach any child to make a basket, a bird box, a clay pot, a grass rug, a bead head band or other useful handicraft article.

6. Teach six or more young people two Indian dances so that they can perform them at request.

7. Teach six or more children three folk dances.

8. Organize and lead a Tribe in Woodcraft for a year.

9. Lead an outdoor nature study class of four or more children for a year, so that class has collected twenty-five butterflies or moths, twenty-five wild flowers, ten ferns; knows fifteen trees by leaf and bark.

10. Have a class of four or more in popular astronomy for a winter or a summer, so that class can pass test for knowing Pole Star and fifteen star-groups.

11. Teach a handicraft class such as beadwork, baskets, quillwork, metal work, pottery, woodcarving, etc.
12. Teach two or more children to sing without accompaniment any three ballads (solos or duets) of known merit, such as folk songs or standard songs.
13. Bring group of children trained by self to entertain Council by dancing, singing, talk-fest, or acting.

Three Years' Service

(*Nisso-bibon*)

This degree is dedicated to the memory or Carl E. Ekstrand, the first Treasurer of the Woodcraft League, and the first Woodcrafter to give his life in the World War.

The Degree of Three Years' Service may be conferred on any one who has been a member of a Woodcraft Tribe for three years, never missing a tribal campout in that time, attending at least half of the tribal meetings at other times, and having a clear record for law and order.

Traveler

(*Bebamadisid*)

The Degree of Traveler may be conferred on any one who takes nine of these tests:

1. Walk one mile in eleven minutes.
2. Tramp twenty miles a day.
3. Climb one of the standard peaks. (See mountain climbing.)
4. Know at least fifteen star groups, including the Dipper and the Little Bear.
5. Camp out in at least ten different states or countries.
6. Enter the Arctic or Antarctic circles.
7. Cross the equator.
8. Take exact latitude and longitude with instruments.
9. Take latitude within two degrees of error, with homemade instruments.
10. Make a compass survey of 100 miles of country.
11. Travel at least 100,000 miles by rail or steamship or other means.

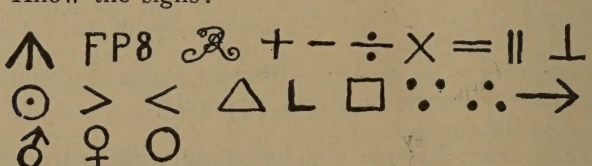
12. Travel 500 miles on foot, by bicycle, by canoe, or in saddle, camping out.
13. Know 200 signs of the Sign Language.
14. Make one's self comfortable in the woods over night without tent or bedding.
15. Swim 100 yards.
16. Sleep out thirty nights.

Village Scout

(*Odena-winăni*)

The Degree of Village Scout may be conferred on any one who takes fourteen of these tests:

1. Know how to turn in an alarm for fire.
2. Know how to enter burning buildings.
3. Know how to prevent the spread of fire.
4. Understand the use of hose: unrolling, joining up, connecting two hydrants, use of nozzles, etc.
5. Understand the use of escapes, ladders, and chutes.
6. Know how to improvise ropes and nets.
7. Know what to do in case of panic.
8. Understand the fireman's lift and drag.
9. Know how to work in fumes.
10. Understand the use of fire-extinguishers.
11. Know how to rescue animals from fire.
12. Know how to prevent a running fire on the ground.
13. Know how to organize a bucket brigade.
14. Describe and give history of the seal of your State.
15. Know how to ride a wheel.
16. Repair a puncture.
17. Walk four miles in one hour.
18. Know the signs:



Meaning respectively:

Official mark, fire-plug 8 feet out, please remove dust, add, subtract, divide, multiply, equals, parallel, plumb, circle, more than, less than, triangle, right-angle, square, because, therefore, this direction, male, female, young.

Whiteman's Woodcraft

(*Dibaakid*)

The Degree of White Man's Woodcraft may be conferred on any one who takes nine of the following tests:

1. Take, develop, and print photographs of twelve separate subjects, three interiors, three portraits, three landscapes, and three instantaneous "action photos."
2. Make a recognizable photograph of any wild bird while on its nest.
3. Make a recognizable photograph of a wild animal in its native haunts.
4. Make a recognizable photograph of a fish in the water.
5. Map correctly from the country itself the main features of half a mile of road, with 440 yards each side, to a scale of two feet to the mile, and afterward draw same map from memory.
6. Measure the height of a tree, telegraph pole, and church steeple without climbing.
7. Measure width of a river without crossing.
8. Estimate distance apart of two objects a known distance away and without approaching, within an average of 10 per cent. of error in ten different trials.
9. Measure a gradient.
10. Gauge accurately the speed of a stream.
11. Tell the number of gallons of water going over a fall or down a stream.
12. Gauge the horsepower of a given fall.
13. Teach the last seven to someone else.

Wise Woodman

(*Nikwaka-winini*)

The Degree of Wise Woodman may be conferred on any one who takes twelve of these tests:

1. Have a list of 100 different kinds of birds personally observed on exploration in the field.
2. Have identified beyond question in the field by appearance or by note, 30 different kinds of wild birds in one day.
3. Have made a good clear photograph of some wild bird as in coup.
4. Have secured at least two tenants in bird boxes erected by self. i.e., 2 species, excluding English sparrow and starling.

5. Have daily notes on the nesting of a pair of wild birds from the time the first egg is laid until the young have left the nest.

6. Have attracted at least three kinds of birds, exclusive of the English sparrow, to a "lunch counter."

7. Have a knowledge of the game laws of the state in which you live.

8. Preserve and mount the skin of a game bird, or animal, killed in season.

9. Mount for a rug the pelt of some fur animal.

10. Know twenty-five different kinds of trees.

11. Know thirty different wild flowers.

12. Know ten different snakes.

13. Know ten different fungi.

14. Know not less than 6 observational weather signs of local application.

15. Know 5 weather signals of U. S. Dept. of Agriculture.

16. Make fire with the rubbing-sticks.

Wood Music

(*Chibiabos*)

The Degree of Wood Music will be conferred on any one qualifying in ten of the following:

1. Qualify as song-leader in Council by leading on at least 15 occasions.

2. Tell the difference between a poem, a ballad, a lyric, a round, and a song, giving examples, and show why a true song is best for the camp.

3. Describe the negro spiritual and show why it is a true song, however crude.

4. What is the musical place and value of the college and camp yell?

5. What is the psychological value and place of the tom-tom?

6. Explain honor chants and shame rhymes and give examples.

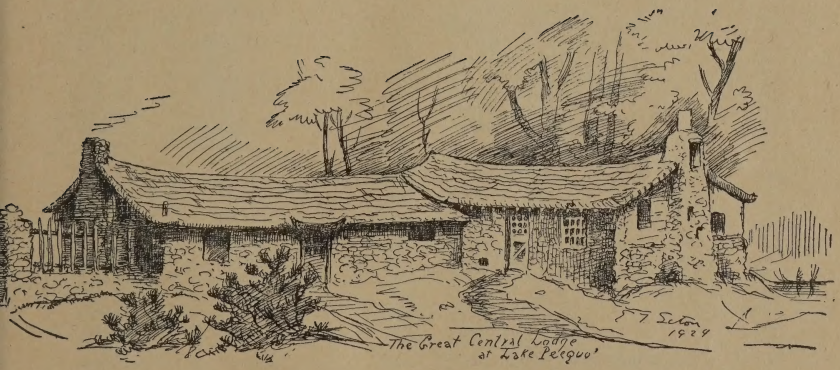
7. Give one or more musical calls to Council.

8. What is the value and place of rousers?

9. Distinguish 25 birds by their song.

10. Distinguish 5 kinds of frogs and toads by their song.

11. Name 4 wild creatures that use a drum.
12. Name 2 animals, other than birds, that whistle.
13. What wild creatures use a fiddle and what a rattle?
14. Be a bugler.
15. Use the lumberman's horn for camp calls.



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